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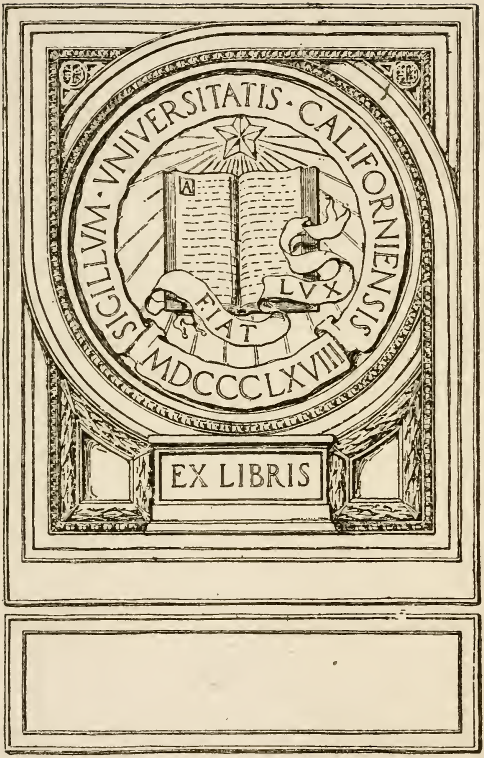
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THE GARMENT TRADES

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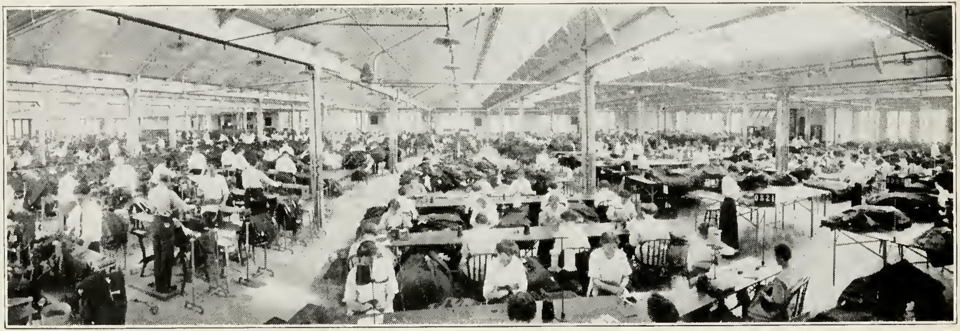

Modern edition of the first clothing factory in Cleveland

CLEVELAND EDUCATION SURVEY

THE GARMENT TRADES

BY

EDNA BRYNER

THE SURVEY COMMITTEE OF THE
CLEVELAND FOUNDATION
CLEVELAND · OHIO

19 1916

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FOREWORD

This report on "The Garment Trades" is one of the 25 sections of the report of the Education Survey of Cleveland conducted by the Survey Committee of the Cleveland Foundation in 1915. Twenty-three of these sections will be published as separate monographs. In addition there will be a larger volume giving a summary of the findings and recommendations relating to the regular work of the public schools, and a second similar volume giving the summary of those sections relating to industrial education. Copies of all these publications may be obtained from the Cleveland Foundation. They may also be obtained from the Division of Education of the Russell Sage Foundation, New York City. A complete list will be found in the back of this volume, together with prices.

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THE GARMENT TRADES

CHAPTER I

THE HISTORY OF THE INDUSTRY

When Elias Howe reversed a time-honored custom 70 years ago by threading a needle through the point instead of the blunt end, and devised a machine to drive it through the cloth instead of pulling it through by hand, he revolutionized the making of clothing. The development of the manufacture of ready-to-wear clothing into a great industry, supplying the average family with practically every article of wearing apparel it requires, began with the invention of the sewing machine.

Until the early part of the 19th century, all clothing was made to order. Probably the first ready-to-wear garments were made in New Bedford, Massachusetts, for sailors. These rovers were unable to wait for the slow process of the shears and the "goose." A merchant who had dealings with them hit upon the plan of making up a stock of suits. It is said that he had them made up all of one size. His venture was so profitable that the plan was soon adopted by other merchants.

A little later this kind of clothing manufacture which, because of the rough materials and workmanship, was called "slopwork," was taken up in Boston, and in 1830 George Updyke—at one time mayor of New York—started a small factory in the latter city. Branches were opened in Memphis and Charleston and within a comparatively short time factories were established in other cities of the country. The wholesale manufacture of medium grade ready-to-wear suits was begun in New York about 1835.

At first the garments were cut out in factories and sent to contractors to be made up by hand, usually in the homes of the workers. Much of this work was sent out during the winter months to the wives and daughters of farmers in the neighborhood of New York, Boston, and Philadelphia. A large part of the product was sold in the south and west, although even in the east people were beginning to find that ready-made clothing was both economical and convenient.

By 1840 the industry was firmly established. The better grades of clothing were made up in small tailor shops which took work from the factories during the dull season in the custom trade. Most of the tailors at that time were English.

Rapid Growth of the Industry

About 1850 the emigration to the gold fields of California gave a great stimulus to the industry, through the sudden demand for clothing in large quantities.

The use of the sewing machine, which increased the rate of sewing to 800 or 900 stitches a minute, was introduced about this time.

During the Civil War period many factories, employing in the aggregate thousands of workers, were started for the purpose of manufacturing uniforms. After the war this equipment was used for the making of civilians' clothing. Sizes were standardized on the basis of thousands of measurements that had been taken in government custom workshops in the course of the war. The manufacture of women's ready-made cloaks and children's garments also began about this time. Previously the better grade of cloaks had been imported from France, and when cloak-making was first started in America, many French tailoresses were employed.

Development of Different Systems of Work

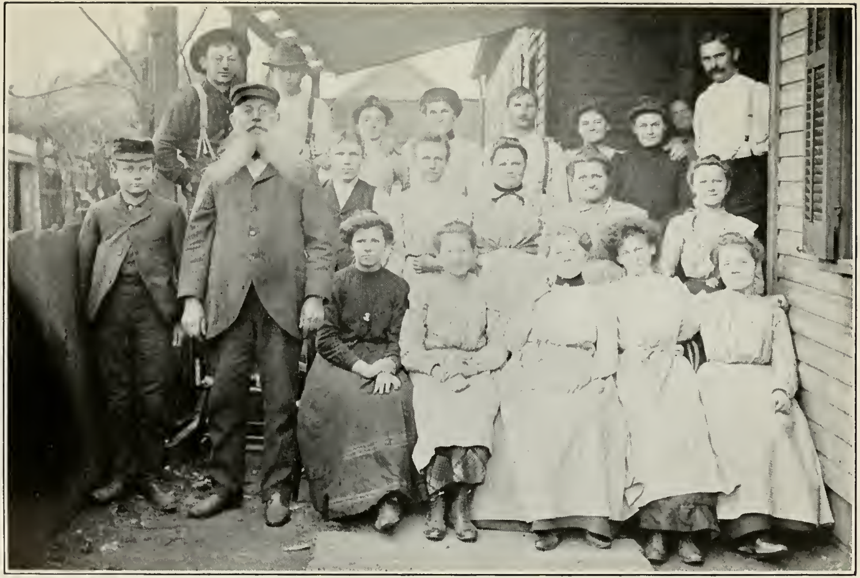
In 1876, Russian Jews began to enter the trade in large numbers, bringing with them a new division of labor, the "team" system with its accompanying "task." The "team" was made up of three skilled workers—a machine operator, a baster, and a finisher. Other workers were pressers, buttonhole makers, and button sewers. A certain number of coats were given out as a "task" for the week. Each person performed his own particular operation as many times as there were coats. This constant repetition meant that the workers quickly attained a high rate of speed, with the result that more work was done in less time. This system is still used very extensively in coat making. Out of it grew the sweating system, and to this day the mention of "team work" always suggests the sweatshop.

Due to the introduction and improvement of machinery, the various processes were divided and simplified for the purpose of utilizing relatively unskilled labor. In 1895 a modification of the team system was introduced by which the work was apportioned so that first and second operators, first and second basters, etc., should keep pace with each other. Later the different kinds of workers were grouped, the whole body or section of finishers setting the pace for the whole body of operators, and so on through all the different grades of work.

About this time English Jews introduced the "Boston," or factory method, through which the employment of skilled tailors was largely done away with. It is based on a minute subdivision of processes and the employment of each worker on a single operation. The greater part of the work is performed by machine operators.

IMPROVEMENTS IN MACHINERY

Improvements in machinery have kept pace with the development of specialization of the labor force. Machines have been made lighter, less noisy, and the mechanism so improved as to prevent loss from breakage of needles and thread. In some of the larger men's clothing establishments almost every separate operation is performed on a special machine.



Old time Bohemian contractor with his group of workers

Great progress has been made in the use of power machinery during the past quarter century. In 1890 only eight per cent of all establishments making men's clothing, and 11 per cent of those making women's clothing, were equipped with power machinery. Through the use of electric motors the speed of machines has been increased to between 2,000 and 4,000 stitches per minute. Electric power has also been applied to cutting and pressing machinery. An idea of the economy of time secured through the use of high speed machines may be obtained from the comparison of hand and machine work shown in the following table.

TABLE 1.—TIME CONSUMED IN MAKING 100 MEDIUM-GRADE COATS BY HAND AND BY MACHINE

Kind of work	Hours by hand	Hours by machine
Shrinking cloth	11.7	1.8
Cutting	33.3	4.5
Sewing seams	1,000.0	66.7
Cutting buttonholes	3.3	.3
Working buttonholes	275.0	6.3
Total	1,323.3	79.6

The labor time needed to do this work by machine is less than one-sixteenth that required by the old hand methods. The saving amounts to approximately 94 per cent. The enormous increase in production during the past 20 years has been due in large measure to the steady growth in the use of power machinery.

SUMMARY

The manufacture of ready-to-wear clothing began in the early part of the last century in the making of clothes for sailors. After the invention of the sewing machine in 1846 the industry developed with great rapidity, receiving its first important impetus from the business developed by the sudden emigration to the gold fields of California and a far greater one by the enormous demand for uniforms brought about by the Civil War.

In the 70's the systematization and subdivision of the work began with the introduction of the "team" and "task" systems. These methods tended to displace the all-round workmen and to substitute for them specialists skilled in doing one or two operations only. This specialization has continued and developed until the industry is now characterized by minute subdivision of processes. The introduction of modern semi-automatic machinery driven by electric power has aided in specializing the work and increasing the output until at the present time a factory-made garment is produced in less than one-sixteenth of the time required by hand methods.

CHAPTER II

CLOTHING MANUFACTURE IN CLEVELAND

The ready-made clothing industry, germinated from the needs of working men on the high seas, has become, in its effort to fulfill the clothing demands of all classes of people, one of the most important of the manufacturing industries, employing increasing numbers of men and women of all nationalities.

When the last census was taken in 1910, there were nearly 400,000 people in the United States earning their living by making men's and women's garments in factories. Among each 100 so engaged, 61 were working at the making of men's garments and only 39 in factories making women's garments. Men's garments are a factory product to a far greater extent than women's, the latter still being made in considerable proportion in small custom shops and at home.

Two important characteristics of this industry bring about conditions which make it peculiarly different from other industries. The first is that it is highly localized; the second, that one branch—the making of men's clothing—is sharply differentiated from the other branch,—the making of women's clothing. The industry is further characterized by the fact that the work is of such nature that it can be carried on in any place where a half dozen machines and an ironing board can be brought together; and that several different methods of work are pursued.

Almost two-thirds of all the clothing workers in the country were, according to the 1910 census distribution, employed in five cities. Among each 100 workers employed in the entire country, 41 were in New York, 10 in Chicago, seven in Philadelphia, five in Baltimore, and two in Cleveland. To such a high degree is this industry concentrated that the boy or girl going into clothing work will need to contemplate living in one of the dozen cities where it is carried on.

In Cleveland the industry holds a foremost rank. There were in 1910 nearly 18,000 people employed in the making of foundry and machine shop products, which is numerically the most important industry of the city. The making of men's and women's garments took second place with more than 8,000 employees.

The clothing industry is rapidly growing in this city. During the 10 year period from 1900 to 1910, the number of persons employed doubled. This was a much greater increase than took place in the industry in the country as a whole and more than twice as large as the increase in the population of the city in general. There is every indication that this rapid growth is still continuing and a close estimate shows the number of garment workers in the city at the present time to be over 10,000.

Among the 8,000 people employed in this work in 1910, there were more women than men, and more workers on women's garments than on men's garments. The distribution of the men and women in the industry is most interesting. The making of men's garments has been more fully standardized and is subject to fewer changes than the making of women's garments. Into this standardized and systematized work the women have come, until they now outnumber the men. In contrast, the styles of women's garments are more changeable. Hence their manufacture is not so routine in nature and here the proportion of men is larger than in the older and more stable branch of the work.

We may refer to the 8,000 workers in Cleveland as being approximately represented by eight typical individual men and women and when we do this we find our group of eight workers—each one really representing 1,000 employees—distributed as follows:

Working on men's clothing....1 man and 2 women
Working on women's clothing..2 men and 3 women

The Two Branches of the Industry

Cleveland is not a large center for the manufacture of men's clothing, its rank being eleventh among cities in the number of persons engaged in this work. The product shows a wide diversity, from rompers, Norfolk suits, kneepants, and blouses for boys, to uniforms for street car men, overalls and blouses, and shirts, suits, overcoats, and raincoats. There are hardly enough shops making the same kind of garment to cause competition or to allow coöperation, both of which are stimulating to an industry. With two or three exceptions, the shops are small. Of the 21 establishments visited during the Survey, 14 employed less than 100 workers, and only two employed more than 200.

A considerable number of workers are employed in establishments engaged in manufacturing made-to-order clothing in which the method of work is practically the same as that in the ready-made shops. They are known as special order houses and occupy a position between the garment factory and the custom tailoring shop. Many small stores now carry no stock of suits, but keep a line of samples and style books from which their customers may make their selections. The sample of cloth and the number of the style, together with the customer's measurements are then sent to the special order house which makes up the suit. This kind of clothing manufacture is steadily increasing. It is said that in Chicago special order houses turn out more than half of all the men's clothing that is manufactured in the city.

Cleveland ranks fourth among American cities in the manufacture of women's clothing. The bulk of the product is made up of suits, cloaks, and skirts, although several establishments make dresses, waists, and aprons. Large scale production is the rule in this branch of the industry. There are a dozen establishments employing from 200 to 1000 workers each. Several others employ from 100 to 200 workers.

Cleveland began manufacturing ready-made clothing in the early days of the industry. As a result there may be seen today in the city the different kinds of workplaces and different methods of work that developed with the growth of the industry. The manufacture of men's ready-made clothing in Cleveland was started in 1846, the same year that a patent was taken out on the first sewing machine in America. Women's clothing was first manufactured in the city in the later seventies.

Like the other first makers of clothing, Cleveland's earliest manufacturers had only a warehouse where they cut garments out of the materials stored there and gave out the bundles of pieces to contractors who, with the help of their families or neighbors, made them up at home or in small shops. When the work was finished, it was taken back, the contractor receiving a certain price per piece, and paying his workers as he chose from the proceeds.

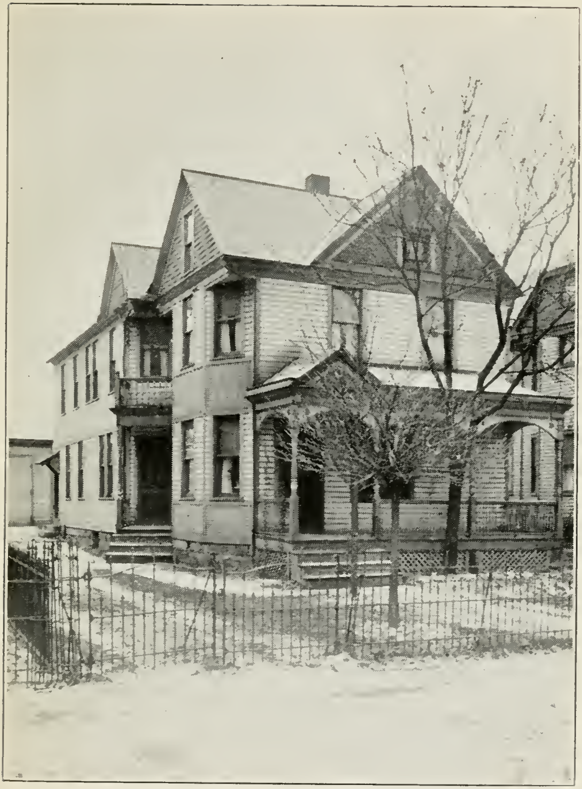
Thus there developed two distinct groups of employers in the clothing industry,—the clothing house or firm proper, and the contractor. In these two sorts of houses,—inside and outside shops,—as they are commonly known, Cleveland carries on today the manufacture of both men's and women's clothing.

The inside and outside shops are closely identified in Cleveland with certain types of workplaces. The large inside shop usually has its own factory building, while the small inside shop is likely to be in a loft. The large outside shop is found in a loft or more rarely occupies its own building, while the small outside shop is usually a home workshop.

At the present time the Ohio law forbids the use of any dwelling, except by the family living therein, for carrying on the making of articles which are to be offered for sale unless certain prescribed regulations are complied with. As a result, the old-time sweat shop is being replaced by the home workshop. This is a room in a dwelling house or on the same premises, but quite separate from the house. Section 1021 of the Factory Law specifies that:

> "Each room or apartment used for the purposes named in the preceding section, except by the immediate members of the family living therein shall be regarded as a shop or factory and shall be separate from and having no door, window, or other opening into a living or sleeping room of a tenement or dwelling. No such shop or factory shall be used for living or sleeping purposes or contain any bed, bedding, or cooking utensils, or other utensils, except those required to carry on the work therein. Each such shop or factory shall have a direct entrance from the outside, and if above the first floor, have a separate and distinct stairway leading thereto, and be well and sufficiently lighted, heated, and ventilated."

If one will take a Broadway car out into the southeast part of the city, alight from the car on any street in or near the 50's, and walk for a few minutes he will see a bunch of wires leading to the back of some substantial looking house, and if he follows this guide, he will usually find a home workshop. The home



The bunch of wires leads to a home workshop upstairs in the back of the house

workshop generally employs from 10 to 30 people, occasionally as many as 75. The employers are usually foreign born tailors who hire their own countrymen as workers. Women sometimes engage in this kind of small contracting. Often a husband and wife control the shop together, working with their employees.

Many of the manufacturers or contractors occupying quarters in a manufacturing building, while they fulfill the demands of the generally adequate state law, do not supplement their conformities with other necessary provisions for the comfort of their workers. While in a few cases workers are in too close quarters, poor lighting is perhaps the greatest limitation of these workshops. Inadequate natural lighting is supplemented by electric lights which oftentimes are unshaded and badly placed so that the light is directly in the eyes of the worker. On the other hand, some of the shops occupying floors in factory buildings are exceptionally well lighted, spacious, and airy.

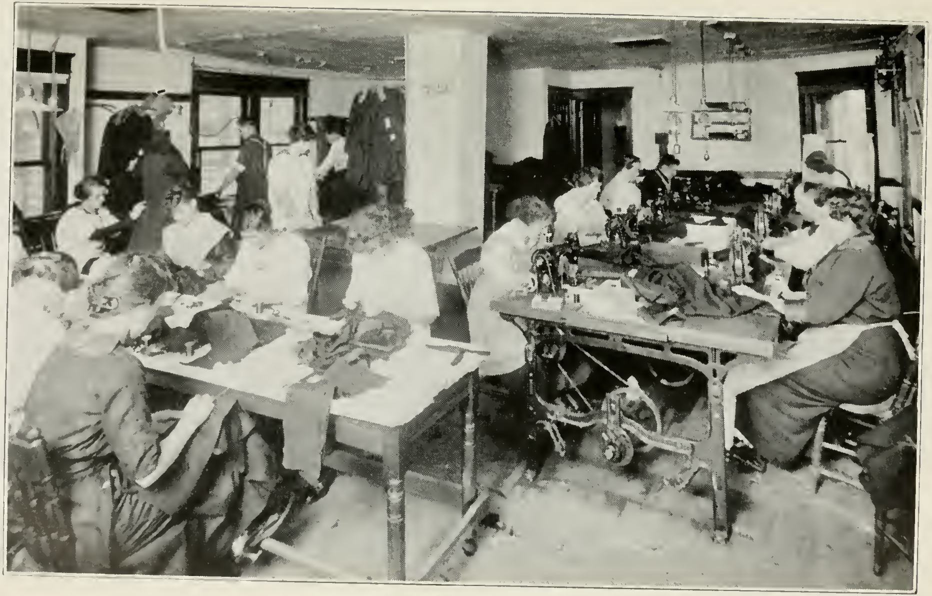
A number of large factories have been built in Cleveland especially for the clothing business. Practically all of them are excellently lighted, unusually spacious, and contain, in addition to the work-rooms, special rooms where good food may be procured at cost, or where hot food may be prepared by the workers themselves. Some of them are provided with rest rooms, indoor recreation halls, and other "service" equipment. Several have outdoor recreation facilities.

METHODS OF WORK

The methods of work pursued in both inside and outside shops are of three general types: the old tailoring system known as "team" work, or a slight modification of it; piece operating; and section work.

Under the team system a head tailor hires his own helpers (operators and finishers), supervises them, and pays them by the week out of the lump sum that he receives from the clothing establishment for the garments at so much per piece. Sometimes his helpers are on the payroll so that the firm knows how much they get; sometimes the firm actually determines how much they shall get. The firm may or may not pass upon their employment. At any rate they work in a team with the head tailor and have to keep up to his pace. The team system is used mostly in the making of women's coats. The head tailor is a skilled worker who learned the tailoring trade in the old country. By the team system he is utilized both as a worker and as a supervisor of other workers less skilful than himself.

Under the piece operating system each operator sews up all the seams on one "piece" or garment, and each finisher does all the hand sewing on one garment. Each operator and each finisher is an independent worker. The whole body of finishers keeps pace with the whole body of operators. Piece operating is used almost entirely in dress and skirt making and to some extent in coat making. A greater proportion of shops work in this fashion than in any other way; but the



Interior of home workshop

number of workers thus employed is not so great as in section work.

The section system is based on the subdivision of processes. The workers are divided into groups, each group making a certain part or section of the garment. Each operation is divided into as many minor operations as the number of workers and the quantity and kind of materials will warrant. Each of these minor operations is performed by workers who do nothing else. The piles of work are started at one end of the section and passed from hand to hand as each operator does a certain allotted part of the work. This specialization has been carried to a high degree in the manufacture of men's clothing, both suits and shirts, and boys' blouses; and it is increasing in the making of women's clothing. Waists are almost universally made by section work and the system is increasingly used on women's coats.

Some idea of the degree to which the work is specialized may be gained from the following description of the manufacture of vests, the simplest and easiest man's garment to make. In the factory four men prepare the material for the contractor. One marks and cuts out the cloth, another lays the cloth and notches the pieces, a third cuts the linings, and a fourth bundles the pieces together. Before the work is given out in the contracting shop by the section foreman, the bundles are undone by a man who marks the pieces of each vest to match, so that in sewing together and matching the different parts no mistakes will be made. The front of the vest is made by one group, in which the workers are so arranged that the vests can pass easily from one to another in the order of operation. Linings are sewed by a second group, backs by a third, and the parts put together by a fourth. The following list of operations shows the subdivisions of the work:

- *Machine operations*
  - Making welts
  - Basting wigan
  - Sewing welts
  - Sewing and rounding pockets
  - Tacking pockets
  - Seaming linings
  - Sewing pockets on lining
  - Tacking pockets on lining
  - Sewing around lining pockets
  - Seaming backs
  - Making straps
  - Sewing on straps
  - Joining back and lining
  - Sewing forepart on lining
  - Stitching edges of foreparts
  - Backing in
  - Making buttonholes
  - Tacking buttonholes
  - Stitching neck

- *Hand sewing*
  - Basting lining on forepart
  - Finishing necks
  - Sewing on buttons

- *Hand work, not sewing*
  - Cutting welts
  - Cutting open seams
  - Turning pockets
  - Cutting pockets
  - Trimming wigan
  - Cutting lining pockets open
  - Matching linings with foreparts
  - Pulling bastings (first)
  - Pinning shoulders
  - Trimming backs
  - Matching backs with foreparts
  - Turning vest inside out
  - Marking buttonholes
  - Pulling bastings (second)
  - Marking for buttons and cleaning

- *Pressing*
  - Pressing foreparts (first)
  - Pressing foreparts (second)
  - Pressing linings
  - Pressing edges
  - Pressing whole vest

- *Examining*

In some establishments the modern section method and the old tailoring or team system are both found. This is because section work usually succeeds best in large scale production and in some cases the employers are not fully convinced that it is more eco-

The modern factory is beautiful in architecture

nomical or do not wish to change abruptly from one system to another. For those employees who like to work independently the piece operating system offers the best field; for those who need or like to keep pace with others, either the team work or the section plan provides the best field of employment.

Although clothing work in Cleveland is highly specialized, in almost every establishment a number of workers must know more than one operation. This is necessary because in the absence of some employees other workers must be transferred to their operations. Often an extra worker must be put on an operation which is running behind and delaying the output. Clothing work in Cleveland is thus more highly specialized than are the workers. Moreover, if workers change from one factory to another, they are not likely to get work at the same operation which they have already learned to do. In this industry, then, there is a demand for workers who can form what is characteristically called "a fluid working force."

Summary

In 1910 there were nearly 400,000 people in the United States working in the garment making industry. Among each 100 so engaged, 61 were employed in making men's garments and only 39 in making women's garments. The industry is localized in a few cities and divided into two branches—the making of men's clothing and the making of women's clothing. The work is carried on in a few large factories, many medium sized shops, and a large number of home workrooms.

Garment making is an important industry in Cleveland, employing more than 10,000 people of whom more than half are women. There are three general systems of work. The first is team work which is a system in which a head tailor hires his own helpers, supervises them, and pays them out of the lump sum that he himself receives from the firm for which he works. The second is the piece operating system, and this is a method in which each operator does all of one sort of work, such as sewing seams or finishing on one piece or garment. The third system is section work in which each operation is divided into many minor operations and each of these is performed by a worker who does nothing else.

CHAPTER III

WHAT THE WORKERS DO

Garment making may be divided into five kinds of work: designing, cutting, sewing, pressing, and examining. Any one of these main kinds of work presents a number of grades of difficulty according to the garment on which it is performed, so that it is not easy to say how much skill is required in a certain occupation. Examining, for instance, on women's coats is so difficult and important a matter that it requires a worker with the knowledge and experience of a regular tailor; while examining on boys' blouses requires only the alertness possessed by an ordinarily intelligent blouse operator. The same kinds of work are very different in their application to men's clothing and to women's clothing.

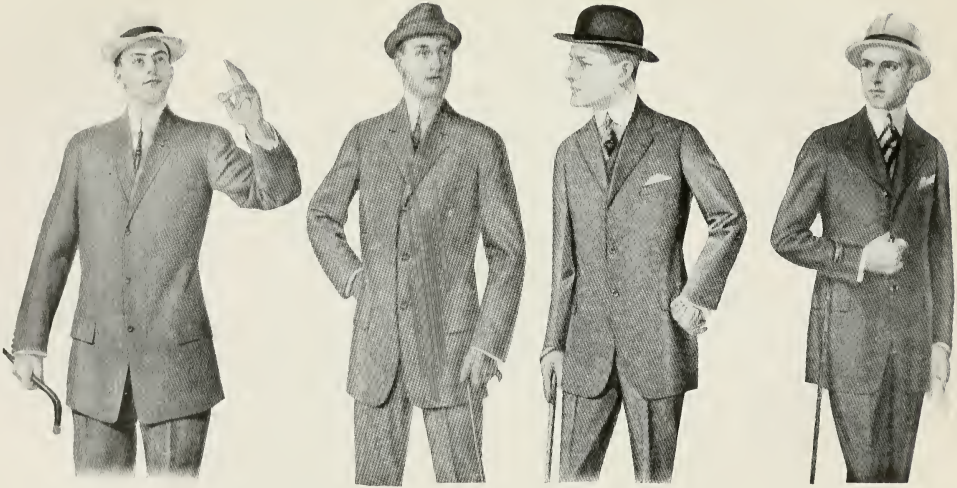
Men and women have different demands in buying clothes. Men want comfort; women want style. As a result, men's garments have become standardized along certain lines which change little from season to season, while women's garments change a great deal. Men's coats change in length from year to year less than two inches at the most. Women's coats may vary by as much as 30 inches, and their skirts by five or six inches. Men's suits have practically the same number of pieces of almost the same shape from year to year, while women's suits may vary from eight to 50 pieces of many shapes. The accompanying illustrations showing the changes in style during the past four years indicate how much greater is the variability in women's clothing than in men's.

Designing

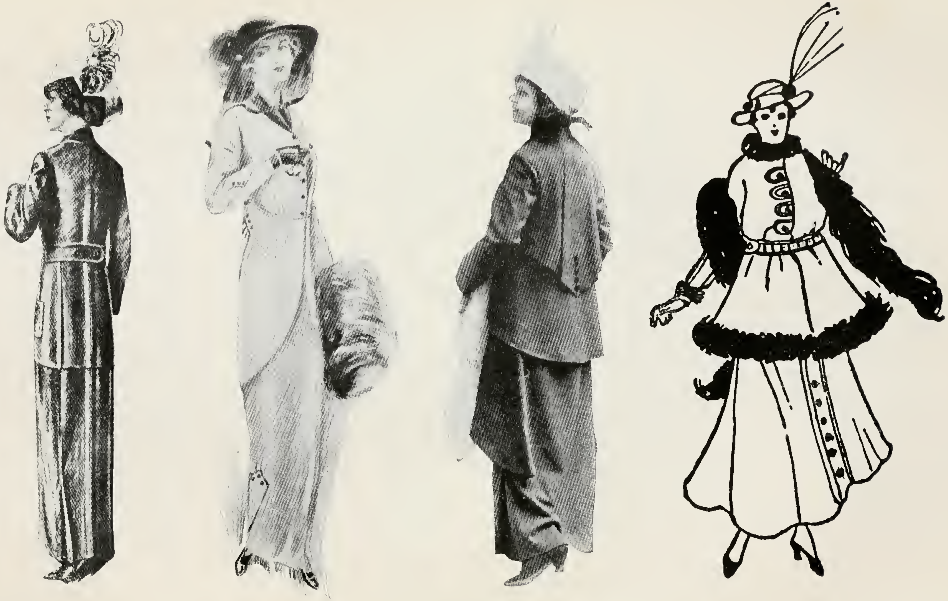
The designer is the autocrat of the garment industry. The success of his employers, in no small measure, depends upon his ability to gauge and satisfy the tastes of the purchasing public. In small manufacturing houses often one of the firm is a designer who thus keeps control over his business. On the designer rests the responsibility for planning garments that can be made out of materials to sell at a given price. His duties are threefold,—to develop the style for the house, make the patterns by which the garments are cut, and plan them so as to avoid any unnecessary waste of cloth.

Before the opening of the season he determines the lines that are to prevail, the length and fullness of the coat and skirt, and the general style of sleeve, collar, and pockets. He makes a sample suit of cloth which is passed upon by the management. If it is approved as to its style and cost of manufacture, he drafts a master pattern for the use of cutters.

No kind of work differs so much in the making of men's and women's garments as designing. Since there are certain definite requirements in men's clothing and great limitations in the matter of adorn-



Men's suits change little in style from year to year. Styles for 1912, 1913, 1914, and 1915



Women's suits change radically in style from year to year. Styles for 1912, 1913, 1914, and 1915 ment, a designer in this line of work needs to put more attention on correctness of line than on novelty. Unlike the designer of women's clothing, he needs good technique more than artistic ability. As a matter of fact the designer in a men's clothing factory is hardly more than an expert pattern drafter, who makes the slight modifications required by the changing styles each year.

Novelty is the main requirement in women's clothing and the designer in this line of work has a difficult task to invent styles that will sell and that will be economical in the use of materials and labor. So quickly and so radically do the styles change at the center of the world of fashion that a designer must be exceedingly alert and ingenious to keep his house abreast of the styles.

The costumes designed by the great creators of style in Paris are copied by representatives of the leading designing houses in this country. These styles are then adapted to less expensive materials and less elaborate trimming, so that the garment can be sold at a reasonable price. The American designer must work out very carefully the standard model of the season's lines. He makes a sample suit or cloak of this standard model first in press cloth which is a lightweight unbleached linen duck used by the presser between the iron and the garment he is pressing. By varying the standard model with different cuffs, collar, pockets, belts, and trimmings he may evolve 50 to 100 styles to be made in 400 or 500 materials.

In most large shops designers of women's clothing have the assistance of a corps of workers employed to make sample garments. In these shops there are also from one to three models, on whom the designers fit sample suits during the process of planning and who display suits to prospective customers.

The basis of the designer's work is his knowledge of the way to construct the garment which he is designing. For designing women's clothing, the designer must have a very wide knowledge of materials, and must be able to fit style and material together. He must also be a versatile drafter of patterns for all the different styles he makes. Most important of all, he must have a discriminating appreciation of style. This is rather a matter of native ability and a person may be an expert "mechanic" and yet lack the ability to invent or adapt styles.

CUTTING

If the designer is the autocrat of the garment industry, the cutters are his most important retainers. Upon their cutting of the garments according to the lines laid down on the patterns depends to a certain extent the fit and appearance of the garments; and upon their laying of the pattern economically on the cloth depends the cost of the garment.

The cutting of garments requires several operations, which in large establishments are performed by different persons. The cloth is first laid flat on a table, one layer where individual suits are being cut, from four to six layers for garments of thick materials, from 20 to 50 layers of lighter woolen materials or heavy cotton, and as many as 200 layers of thin wash materials. The pattern is marked with chalk on a layer which is placed on top of the pile and serves as a guide for cutting the whole pile.

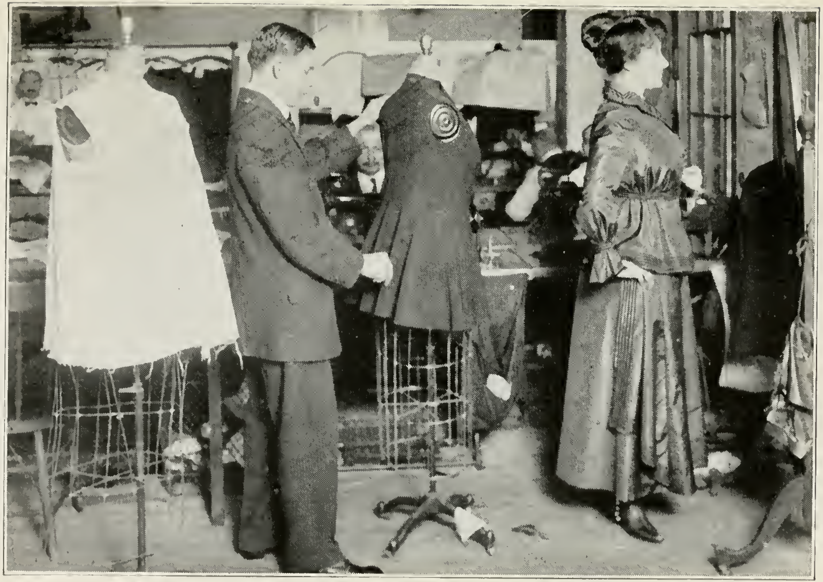
Skill in cutting consists in placing the pattern economically on the cloth so that the maximum number of garments can be cut from a piece of goods. This requires good judgment and ability to calculate quickly and accurately. Cutters must be careful about matching stripes for pockets and collars and fronts, and must be sure to cut similar parts with the nap of the goods going the same way. Accurate measuring and careful observation of materials are necessary in all their work. While knowledge of drafting and grading is not essential to the regular cutter, it is of great value to him.

The specialization of this trade is due in part to improved machinery. The universal shears were replaced early in the history of the industry by a long knife, used somewhat like a saw, which worked up and down through a form cut in the table. About 1870, electric cutting machines came into use. One of these was a circular disc which "as it revolves with great rapidity can cut 24 thicknesses of cloth with buzz-saw speed and with an accuracy not duplicated by human agency." Another electric machine much used today is the reciprocal cutter, with an arm to which is attached a blade having a rapid vertical movement. These machines can do the work of cutting in one-eighth the time consumed by hand.

Cutting is more difficult and more highly specialized in women's clothing establishments. The number and shape of the component parts of women's garments vary so much from season to season that it takes a master hand at jig-saw puzzle pictures to make a good lay of patterns every time. No sooner has a cutter solved the lay of the pattern for one garment than he is presented with an entirely different set of pieces.

Regular cloth cutters constitute about two-thirds of the cutting-room force in women's clothing. The important part of their work is to lay the patterns on the goods and mark around them. They must then be able to cut it out by shears or machine. The best lining cutters are interchangeable with cloth cutters. Indeed in some establishments making a better grade of coats, lining cutters must be more skilful than cloth cutters. Not only do they lay patterns but in many cases they select linings to match the different colored coats, a responsible and exacting task. Trimming cutters cut out velvet and silk collars, cuffs, pockets, and belts. Canvas cutters block out the pieces of canvas used for interlining. Helpers and apprentices assist the regular cutters by laying up goods, notching cut pieces, bringing patterns, and sometimes cutting out small pieces.

The proportion of workers in different cutting occupations in suit, cloak, and skirt factories, in which about three-fifths of all the garment cutters of the city are employed, is shown in Table 2.



Designing department, showing designer at work and model displaying the season's popular offering

TABLE 2.—DISTRIBUTION OF CUTTERS IN 23 CLOAK, SUIT, AND SKIRT FACTORIES, CLEVELAND, OHIO, 1915

Kind of cutters	Per cent
Head	2
Graders	6
Cloth, hand	62
Cloth, machine	7
Lining and trimming	12
Canvas	5
Apprentices	6
Total	100

Trimming and Assorting

A certain amount of "go-between" work must be performed in gathering the cut pieces of garments in proper order for the sewing or construction department. In the making of men's clothing, the go-betweens are called trimmers or fitters. They finish the work of the cutters by trimming linings to fit the outer part of the garment and by cutting facings for pocket flaps. They prepare the garments for machine operators by marking the location of the pockets, by matching the different parts of the garment and labeling them in order to keep track of them during the process of manufacture.

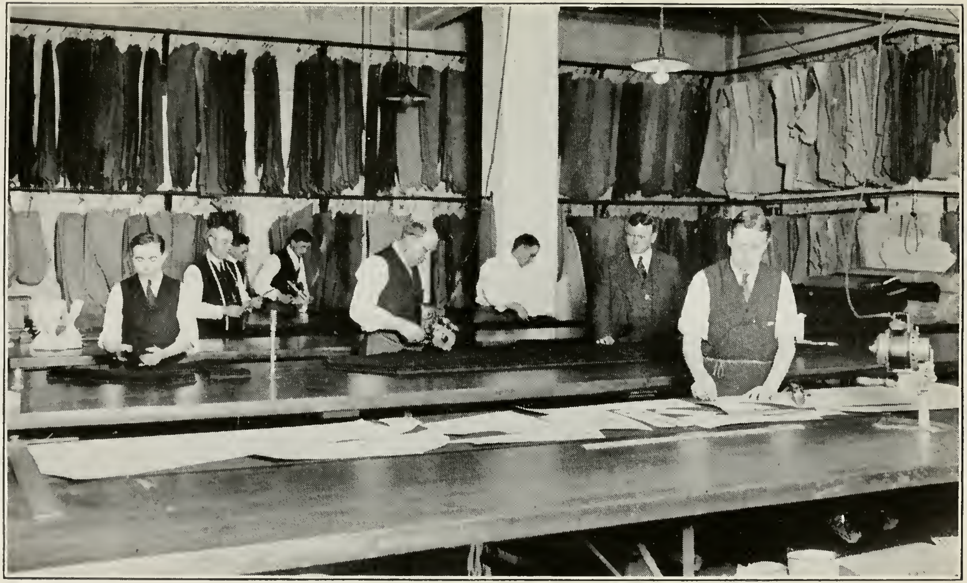
Assorters or assemblers, dividers, and trimming girls do the go-between work in the making of women's clothing. The assorters, called dividers in waist factories, take the piles or bundles of cut-out parts from the cutters, sort the pieces for separate garments, and sometimes sew or paste on identifying tickets. Trimming girls fill requisitions for trimming, their work being partly of a clerical nature. They cut off lengths of braid, and select buttons and other trimming as specified in the list received from the manufacturing office and put them as ordered with the assorted garments.

MACHINE OPERATING

With the exception of felling linings and sewing on certain kinds of buttons and trimmings, nearly all sewing in connection with ready-made garments is done by machine. An operator may do only one operation such as making straps for vests, or she may transfer from one operation to another at frequent intervals; she may do a group of operations, such as all the sewing of a sleeve, or she may do all the operations on a garment.

The extent to which the work is specialized depends largely on the kind of garment and the labor supply. Where the materials are delicate or where the labor is tailor trained, the work is more likely to be done by all-round or piece operators; while where materials can stand a good deal of handling or where the factory depends on green hands for its labor supply, the work is likely to be highly specialized, each operator doing one operation or a group of operations.

It is in machine operating on men's garments that specialization can be seen in its finest detail. With one exception, every shop visited during the Survey



Cutters laying patterns and cutting out by machine

in Cleveland had machine sewing divided into as many different sections as the number of workers and the complication of the garments would permit. In the smaller shops and in some special order houses, the work is divided among four or five different workers. A coat, for example, in these shops is often machine sewed in five sections. One person makes the fronts; a second sews the fronts and back together; a third makes the sleeves; a fourth puts in the sleeves; and a fifth finishes all the machine sewing. In the larger establishments from 20 to 50 different machine operators work on the same garment.

Machine operations on men's clothing remain practically the same from year to year. An operator who knows pocketmaking, for example, has learned a life job. We must not think, however, of a section operator as remaining on one operation all her life. In many shops, especially in smaller ones, it is necessary that operators know several different operations so that when workers are absent, or when a certain operation runs behind, other hands can be transferred to keep the work running evenly. In one shop employing a large number of workers, the average number of operations performed by workers is three, while the average time spent on each operation is from three months to one year.

Special machines constructed for particular operations are used extensively in making men's clothing; but in the making of women's suits, cloaks, and skirts, a one-needle power driven machine, similar to the ordinary sewing machine, is commonly used, both in piece and section operating. Operators who do all the machine work on a single garment must make constant changes from one kind of sewing to another and for this purpose the ordinary one-needle machine is best. Even in section work operators must often change from one kind of sewing to another because of the change in style, and as a result the installation of special machinery is too expensive to be profitable. In dress and waist making, there are many operations such as tucking, hemstitching, cording, ruffling, smocking, and fancy stitching for which special machinery is essential.

Machine operators in clothing factories in Cleveland may be divided on the basis of skill into five groups: sample makers, head tailors, piece operators, helpers to tailors, and section operators or hands.

Sample makers are the highest grade of machine operators. They make the sample or demonstration suits. Quality of workmanship counts for more in this work than quantity of output. Head tailors direct teams of workers. They hire their own help or "team," supervise the work of the team, and do the most difficult part of the work themselves,—both hand and machine. Piece operators sew all the seams on a garment by machine but do no hand work. Helpers to tailors sew the less difficult portions of the machine work under the direction of the head tailor. Section hands work in groups, each worker sewing one section which may consist of one seam or the seams on one section, such as the sleeve, or the back. The distribution of machine operators in women's clothing factories is shown in Table 3.

TABLE 3.—DISTRIBUTION OF MACHINE OPERATING IN 29 WOMEN'S CLOTHING FACTORIES. CLEVELAND, OHIO, 1915

Kind of operator	Per cent
Sample makers	3
Head tailors	6
Helpers to head tailors	6
Piece operators	18
Section operators	67
Total	100

Sample makers, head tailors, and piece operators are all independent skilled machine operators, the first two being skilled also in hand work. The distinguishing characteristic of sample makers is their careful workmanship, of head tailors their supervisory capacity, of piece operators their speed in turning out complete machine-sewed garments.

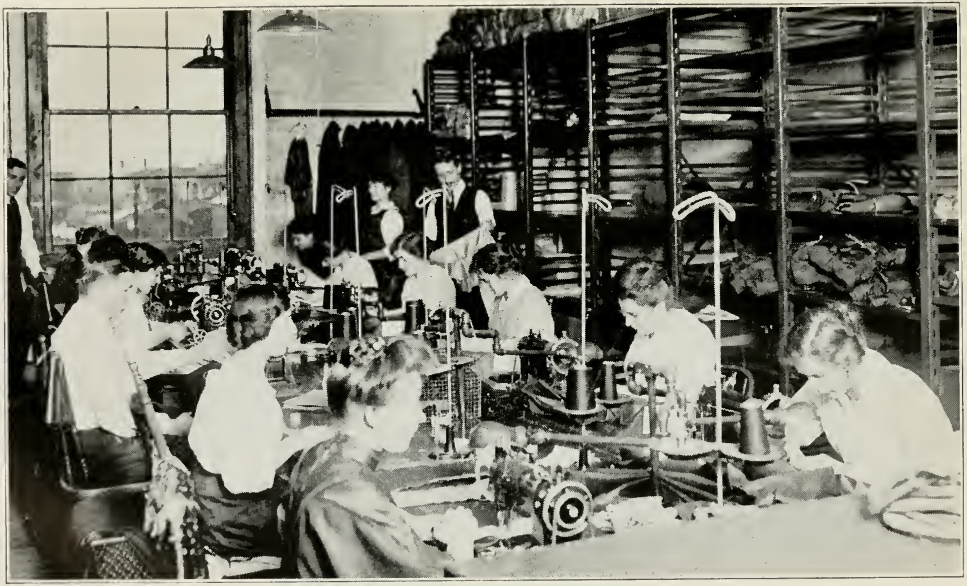
Helpers work in small groups, and are closely supervised by the head tailors. In a sense, they are apprentices. Each does a large share of machine operating, and has a good chance of learning the construction of the whole garment. Section operators work in much larger "gangs," are not so closely supervised, and therefore are somewhat more independent than helpers.

Section operating includes many different kinds of operating which call for different grades of skill. It is only recently that there has been much attempt on the part of employers to grade machine operations according to the skill required. This is one of the fruits of scientific management. The operators have definite ideas as to the difficulty of handling different materials and as to the difficulty of the various operations. In one large factory where section work is used entirely, the various operations are classified in groups according to skill with commensurate rates of wages. Table 4 shows operations in coat and jacket making illustrative of the eight grades of skill, with the respective rate of wages paid.

TABLE 4.—GRADES OF SKILL IN SECTION WORK IN COAT AND JACKET MAKING AS SHOWN BY RATES OF WAGES, IN ONE ESTABLISHMENT, CLEVELAND, OHIO, 1915

Kind of operation	Hourly rate of wages	
	Lowest	Standard
Close lining	$.1225	$.165
Seaming sleeves (back)	.14	.18
Stitching on cuffs	.16	.20
Closing front seams (plain)	.19	.24
Making back	.23	.28
Sewing out facing	.27	.32
Sewing in collar (shaped)	.31	.36
Sample making	.37	.42

The lowest rate is guaranteed to the operator, no matter what quantity of work is turned out. In a sense it may be considered a measure of the difficulty of the operation. For example, the operator who closes linings is paid at a rate of 12.25 cents an hour no matter what his put is, the rate increasing in a shifting ratio to output, after a minimum speed has been attained. The standard rate represents



A section of machine operators in a suit and cloak factory

approximately the amount paid to satisfactory operators and this is greatly exceeded for the most expert ones. It can be seen that a fast worker on an easy operation can make more than a slow worker on a harder one.

These different methods of work are applied more effectively to some garments than to others. Piece operating is used extensively on coats and almost exclusively on separate skirts and dresses. Section operating is used entirely on waists, is increasing on coats, and is used in a few establishments on skirts.

Operating is a sitting-down job. The machines are arranged in a double row so that the workers sit facing each other. The machines are power driven and the operator needs only to press a lever with her foot to release the power. The fatiguing part of the work lies in handling the materials in the sewing process. There is considerable jarring sometimes from the running of the machinery and there is incessant noise. It is said, however, that workers do not mind the buzzing of the machinery after they have become accustomed to it for it soon resolves itself into a rhythm. There is some lint or nap in the air rubbed off the worsted materials but adequate ventilation removes enough to do away with any serious health hazard.

The danger from accidents is slight. Machinery, with the exception of the needles, is well guarded. If care is exercised needle accidents are infrequent and rarely of serious nature. In an establishment employing over 300 machine operators, there were only

20 needle accidents in six months. Safety appliances which make it almost impossible for a worker to get her finger under the needle are on the market but they are not yet in general use.

Hand Sewing

Hand sewers do work that cannot be done satisfactorily by machine. They rough sew, or baste, and fine sew, or finish. Basters are grouped here with finishers because often the same workers do all the hand sewing, both basting and finishing. Basters sew the pieces of the garment together so as to hold them in place for machine operators or to permit the garment to be fitted on a model for examination. Few workers are engaged in basting alone. It is easy work and requires but little training. On men's clothing there is still a good deal of basting done by hand on coats where the canvas and interlinings must be held in place for the machine stitching. On women's clothing there is little basting done by special workers. Many garments are made without basting and on the skirts and coats operators often do their own basting. About one-tenth of the hand sewers are basters.

Finishers on men's garments fell sleeve linings at the shoulder, the body lining all the way round, and the neck lining of vests. They also make buttonholes and sew on buttons, labels, and hangers. Finishing on women's coats includes several operations, chief among which are basting linings in coats, felling down linings, and sewing on trimmings. In some shops finishing is specialized into these three operations each done by a different set of girls; in other shops the same girl may do all of them. Of the three operations, placing the lining in the coat and basting it is perhaps the most difficult, as the worker must know how the garment should "set." Approximately nine-tenths of hand sewers perform finishing operations, one-tenth being specialists on hook and eye, and button sewing.

Factory hand sewing requires ability to do ordinary plain sewing at considerable speed. It is the very simple operations that count. The worker must know how to thread her needle and tie a knot quickly, how to take even stitches, and how to fasten the thread at the end of the operation. She uses not more than a half dozen stitches, but she must know these stitches well enough to work fast without bungling her sewing by knotting her thread or doing uneven work. In button, hook and eye, and snap and clasp sewing, the worker must be deft in picking up the small fastenings, adjusting them in the proper places, and sewing them securely and quickly. In general, hand sewing is more fatiguing than machine operating because of the greater expenditure of effort and the eye strain.

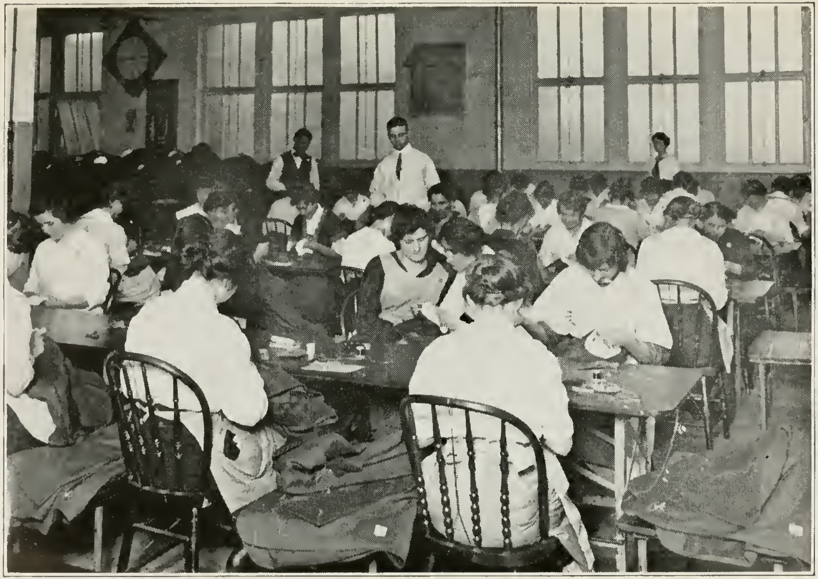
PRESSING AND IRONING

Improved machinery has made the work of pressing much faster and less irksome than in the early days of the industry. The old heavy "goose" iron, heated on a stove, has given place to an iron heated by gas from within and attached to a crane or movable arm, which saves the labor of lifting and putting down the iron. Electrically heated irons are also extensively used. Pressing machines heated by steam inside and adapted to the shape of garments are found in many factories. The latest type in use is an electromagnetic machine, heated by gas and operated by electricity. It is capable of producing a pressure of 4,000 pounds and yet can be easily operated by a woman.

The main requirement in pressing is that the garment be given a certain finish under the iron without stretching or burning the material. Men's suits are pressed from two to five times during the process of manufacture. The final pressing of the finished garment requires very skilful work. Greater adaptability is required in pressing women's garments than men's as the materials vary considerably in texture and weight. Workers who press cotton, silk, and all kinds of light weight materials are discriminatingly called ironers. Part of their work is to fold and pin the garments into shape.

Examining

Not only are the garments carefully examined by foremen during the process of manufacture but they are also gone over minutely by examiners who devote all their time to the work. Alterations and corrections of defects are made either by regular workers or by special workers called bushelers.



Hand sewers

OTHER HAND WORK

There are a number of other kinds of hand workers in the making of clothing. Chief among these are trimmers who clip loose threads from finished garments, and sometimes clean spots or brush the garments. There are also garment folders; markers who mark the places for buttons and buttonholes; and basting pullers. On men's clothing there are a number of workers who assist the machine operators at different stages of the construction of the garment by matching up parts, cutting open pockets, and turning garments right side out. Skilled tailors called shapers, give the tailored cut to the coat by shaping with their shears the collar, lapels, and front. In women's clothing factories there are button makers who cover metal or wood molds with cloth to match different garments. In dress factories, drapers adjust and pin the skirt and waist of a dress together before the garment goes to the machine operators.

FOREMANSHIP

Foremen and forewomen must be good enough garment makers to see all the faults in garments made by the workers under them. They are very responsible persons, being held accountable for the workmanship of every garment made in the section under their charge, as well as for the quantity of garments turned out. In a few of the largest establishments one set of foremen is responsible for the quality of workmanship and another set for the routing of the work and the quantity of the output. In small shops foremen work along with the regular workers wherever they are needed but in large shops they supervise almost entirely, occasionally doing such special work as placing belts and trimmings. They also often have charge of the employment and instruction of new workers.

SUMMARY

Garment making may be divided into five principal kinds of work: designing, cutting, sewing, pressing, and examining. The designers are the aristocrats of the industry, wielding a large influence and earning high pay. Their work on women's garments is far more exacting than on men's. Although cutting is largely done by machine, there is a considerable amount of difficult hand work. A high degree of skill is required in the machine work, especially when it is for women's garments. Sewing, like cutting, is a branch of the industry in which the bulk of the work is done by machines, but a large number of smaller operations must still be done by hand. The requisites in this hand work are speed and uniformity rather than the mastery of a large number of different kinds of stitches.

In pressing, improved machinery is rapidly taking the place of hand work and reducing the difficulty and expense of these operations. In the process of manufacture the garments are carefully examined at many different stages of their construction from the raw material to the finished product.

CHAPTER IV

WHO THE WORKERS ARE

One of the objects of the present study has been to find how many positions there are for men and women in each occupation in the garment making industry in this city. Through the hearty coöperation of the employers it has been made possible for the Survey to secure reliable and fairly complete answers to this question. Data have been obtained from the records of 50 establishments employing a total of 8,337 garment workers, approximately four-fifths of the estimated total number in the city. The data relating to the manufacture of men's clothing were furnished by 16 establishments, employing 1,865 suit makers, and five establishments employing 721 overall, shirt and blouse makers; the data as to women's clothing were supplied by 23 establishments employing 4,907 cloak, suit, and skirt makers and six establishments employing 844 dress and waist makers. The distribution of workers by sex in the various occupations is shown in Diagram 1.

Among every 100 workers, 47 are machine operators, 23 are hand sewers, 10 are pressers and ironers, seven are cutters and four are foremen. The proportion of designers to the total number of garment makers is about one in 150. Most of them are de-

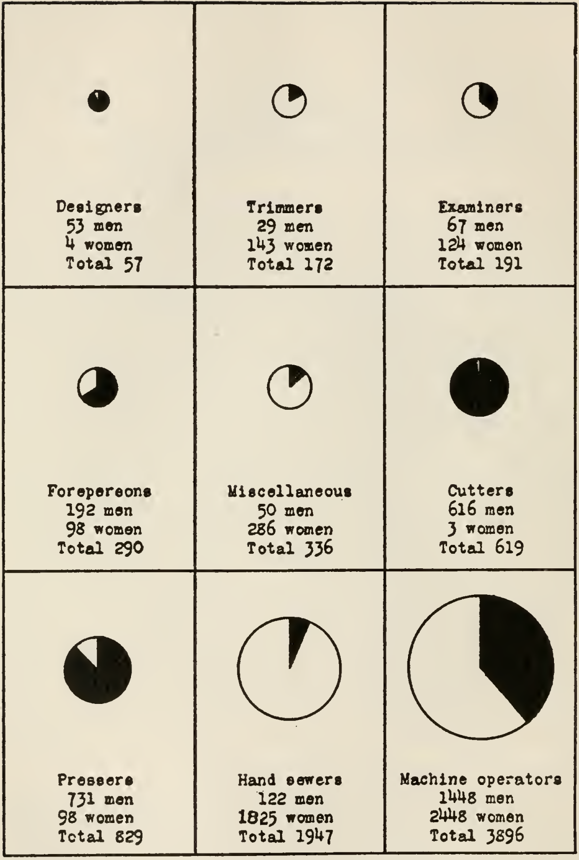
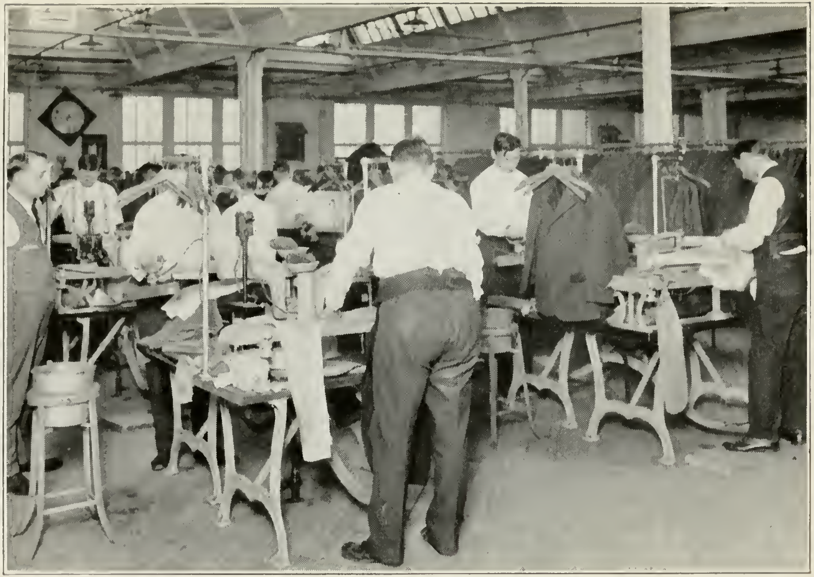


Diagram 1.—Distribution of 8,337 clothing workers by sex in the principal occupations in the garment industry



Improved machinery and overhead lighting make the work of pressers much less irksome in the modern factory

signers of women's clothing. This proportion of highly paid workers is large if compared to the proportion in other industries. There is probably no other line of work in the city offering so many positions requiring both technical skill and artistic ability and paying annual salaries averaging above $4,000 and running as high as $10,000.

SEX OF WORKERS

The industry has always employed more women than men. The proportions, however, are constantly shifting. Thirty-five or 40 years ago the great influx of Russian Jews resulted in a marked increase in the proportion of male workers but of late years there has been a slight tendency to get the work back into the hands of women. In 1910 the ratio of women to men in men's clothing factories was about two to one and in women's clothing factories three to two. No other industry in Cleveland employs women in such large numbers.

Manufacturers say quite frankly that women are more adaptable to systems of specialized work than men and easier to manage. To quote one employer: "They are easier to teach and are capable of developing a higher degree of skill. In a money sense this is of prime importance, and is a leading reason why women are so generally preferred in classes of industries where the work is suitable for them. To get the same quality of service from men would necessitate the payment of higher wages than is warranted by the profits of the industry."* The increasing use of the section work system indicates that the clothing industry will form a continually expanding field of employment for women.

The apportioning of work to the two sexes seems to depend partly on the weight of materials and partly on previous training, which in turn depends largely on whether workers are American or foreign born. The men are largely recruited from among foreign born tailors who are better trained for the more complicated work such as jacket making. The women are largely American born of foreign parentage, trained in American shops, and employed chiefly on operations that can be learned in a relatively short time.

While there is not a single occupation absolutely in the hands of either sex, there are certain ones so largely held by either men or women that they may be said to be "man" trades or "woman" trades. Cutting, in which women were formerly employed to some extent, is today practically monopolized by men. A few women are engaged in cutting trimmings, such as velvet or silk collars, cuffs, and pockets, but the total number employed at such work is negligible. Pressing, too, is a man's occupation. In this city, however, five women are engaged in pressing men's suits by the new easily operated electromagnetic machines. Practically all hand sewers are women, except for a few basters on men's clothing.

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* The Training of Women Employees—Reprinted from Factory. The Magazine of Management, Nov., Dec., 1914. March, 1915.

Most designers are men, although a few women designers are found in dress and waist shops where they are preferred because of their superior ability in designing dainty garments. The chief objection to the employment of women as designers is their lack of knowledge of the commercial aspect of the work. They fail to realize that garments must be made of materials of predetermined cost and must not be unduly difficult to make if they are to be sold at a reasonable price. There is no valid reason why women should not become competent cloak and suit designers, provided they have the necessary trade and technical training.

The largest trade,—machine operating,—employs two women to each man. In no trade in which both sexes are engaged is the difference in their work more apparent. The weight of materials decides to some extent the division of operating between men and women. Some manufacturers are of the opinion that garments made of such thick materials as plushes, corduroys, and cheviots, are too heavy to be manipulated under needle machinery by women and consequently employ only men operators. Where lightweight materials are used as in the manufacture of dresses and waists, delicacy in handling is required, and nearly all the operators are women.

It is probably previous training which has most to do with the apportioning of operating between the two sexes. With the skill acquired in their tailoring experience, foreign born men are utilized on suits and cloaks as sample makers, head tailors, and piece operators. Head tailors obtain as their helpers their friends and their friends' sons. Men and women are employed in piece operating on suits, cloaks, and skirts, in the proportion of five men to three women, and in section operating in the proportion of four men to five women. Women piece operators are largely engaged on skirts while men are employed on jackets and cloaks. Women do all the section operating on waists, all the sample making on dresses and waists, and all the piece operating on dresses.

As a rule the examining of men's and women's coats is done by men. Most trimmers or fitters for men's clothing are men, while assorters for women's clothing are girls. Most of the workers grouped under "Miscellaneous" in Diagram 1, are girls.

Foremanship positions are apportioned between men and women somewhat as the work which is supervised is apportioned between the two sexes. Cutting and pressing—the two "man" trades—are in charge of foremen; while button sewing and finishing, two divisions of the "woman" trade of hand-sewing are usually in charge of forewomen. Machine operating is directed by both foremen and forewomen.

NATIONALITY OF WORKERS

A glance at the list of names on the payroll of almost any establishment is sufficient to show the great number of foreign born workers or those of foreign parentage. Four-fifths of the men and two-fifths of the women employed in the industry are of foreign birth and the majority of the native born workers are of foreign parentage. In one factory alone there are employed Hungarians, Russians, Germans, Italians, Poles, Austrians, and Americans.

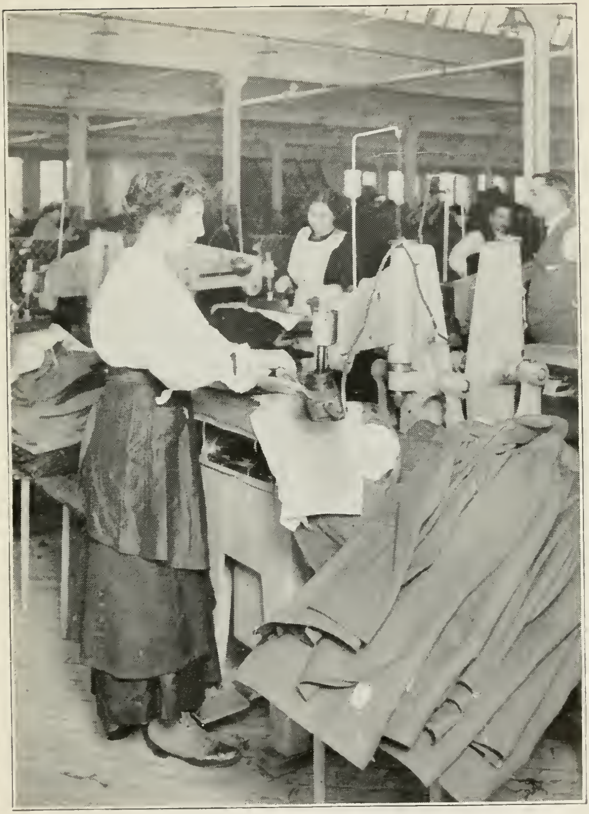
Large numbers of the women engaged in machine operating, the largest of the trades, and many of the men employed as cutters, are Americans. A considerable proportion of the hand sewers are foreign born, for the most part Italians. Most designers are foreign born. In the men's clothing industry they are largely Scotch and English; in the women's clothing industry they are mostly Russian and Italian, although there are a few who are Polish, Hungarian, Austrian and German.

There is an increasing demand for workers who understand English, as they are able to follow directions more intelligently. In one large establishment, where about 45 per cent of the workers are foreign born, foremen do not use any language except English because the management has insisted on having its workers learn the language of this country. In some establishments there is a conscious and expressed attempt on the part of employers to secure American workers because they maintain that there is less labor agitation among them than among the foreigners.

Young Workers in the Industry

Although there is a considerable number of workers under 18 in garment making as compared with most of the manufacturing industries, there is a tendency not to employ these younger workers in clothing work, principally because of the operation of the Ohio labor laws. The laws prohibit the employment of boys under 15 and girls under 16 in factories. Thus there is a considerable gap between the age at which most boys and girls finish elementary school and the age at which they are permitted to enter industry. The law further provides that before they can enter employment, boys under 16 and girls under 18 must possess an age and schooling certificate, certifying in the case of the boy that he has passed a satisfactory sixth grade test and in the case of the girl a satisfactory seventh grade test.

There is a much greater gap, however, between the age at which boys and girls finish elementary school and the age at which they are permitted to enter the clothing industry in large numbers. This is largely due to the fact that many firms will employ no one under 18 years of age because of various complications which arise in connection with the age and schooling certification of girls between the ages of 16 and 18. Of 25 women's clothing factories visited during the Survey, only nine had workers under 18. According to the report of the Industrial Commission of Ohio for 1914, only eight per cent of the workers employed in making men's clothing, and less than



A girl can easily operate the electromagnetic pressing machine

two per cent of the workers employed in making women's clothing were below the age of 18.

Some firms take these younger workers on in case of necessity in rush seasons and lay them off as soon as they can, for they claim that they are uneconomical workers as well as troublesome from the point of view of legal regulations. The few firms that make a practice of taking the younger boys and girls are for the most part small contracting shops or larger establishments having regular systems of instruction.

ORGANIZATION OF WORKERS

Organization of clothing workers in Cleveland has not reached a high degree of development About 200 workers in two special order houses and about 60 workers in two overall factories comprise the membership in two branches of the United Garment Workers of America having agreements with employers. Since January, 1915, the number of members of the five women's garment makers' unions has steadily increased until over 2,000 names have been enrolled, although the number fluctuates considerably from time to time. These unions have no agreement with employers.

One large shop making women's clothing has its workers organized in the form of an assembly, with a senate and house of representatives where all matters pertaining to working conditions are jointly considered by the employees and the firm.

SUMMARY

Machine operating is the largest garment trade. It employs 47 out of every 100 clothing workers. Hand sewing employs 23 out of every 100, while pressing employs 10 and cutting seven. No other industry in Cleveland employs women in such large numbers. In men's clothing factories the ratio of women to men is two to one while in women's clothing factories it is three to two. The proportion of women is likely to increase on account of the increasing use of the section work system.

Cutting and pressing are performed almost entirely by men; while hand sewing is performed by women. Most designers are men; but there is no valid reason why women should not do this work provided they secure the necessary trade and technical training.

Machine operating, the largest trade, employs two women to each man. The women, as a rule are engaged in the operating on light-weight materials which require delicacy in handling, and on work which can be learned in a relatively short time; while the men are engaged on heavy materials, and in difficult work which their previous tailoring experience makes easy for them.

Foremanship positions are apportioned between men and women somewhat as the work which is supervised is apportioned between the two sexes. Foremen are in charge of cutting and pressing; forewomen are in charge of finishing and button sewing; while both direct machine operating.

Four-fifths of the men and two-fifths of the women are foreign born and the majority of the native born workers are of foreign parentage. Many hand sewers and most designers are foreign born. There is an increasing demand for workers who know English, as they are able to follow directions more intelligently.

The operation of the Ohio labor laws has helped to bring about a tendency to prefer workers 18 and over in this industry. A considerable gap is thus created between the time boys and girls leave school and the time they enter the clothing industry.

CHAPTER V

WHAT THE WORKERS EARN

A study of the wage data for the clothing industry presented in the 1914 report of the Industrial Commission of Ohio shows in striking manner that women's clothing pays a smaller proportion of its workers low wages and a larger proportion high wages than men's clothing. This showing in favor of women's clothing persists whether the workers are men, women, boys, or girls; and it is further accentuated by a comparison of the wages paid in similar occupations in the two branches of the industry.

The difference in the wages of men workers in the two branches of the industry is shown in Table 5 which gives the distribution of wages by classified amounts among each 100 men workers in men's and women's clothing factories.

TABLE 5.—WAGE DISTRIBUTION AMONG EACH 100 MEN WORKERS IN MEN'S AND WOMEN'S CLOTHING. CLEVELAND, OHIO, 1914

Weekly wage	Men's clothing	Women's clothing
Under $15	46	29
$15 to $18	26	22
$18 to $25	24	26
$25 and over	4	23
Total	100	100

It is apparent from this table that the women's clothing industry pays a smaller proportion of its men low wages and a larger proportion high wages than men's clothing. Only 29 men out of every 100 in women's clothing receive under $15 per week; while 46 men out of every 100 in men's clothing receive the lowest classified amounts. Twenty-three men out of every 100 engaged in making women's clothing earn $25 or over; while out of every 100 making men's clothing only four earn this higher amount.

The two branches of clothing work make a favorable showing among manufacturing industries in the wages they pay to men. The proportions of their men workers receiving the wages of the three specified classes,—under $18, $18 to $25, and $25 and over,—are compared in Diagram 2 to the proportions of men receiving the specified rates in seven manufacturing industries in the city employing 2,000 or more men wage-earners.

Fifty-one out of every 100 men in women's clothing earn under $18, as the diagram shows, while 23 out of every 100 earn $25 and over. Women's clothing thus ranks at the top with printing and publishing in the largest proportion receiving the highest specified amount. In respect to these two items, men's clothing takes rank slightly below the middle among the industries, with 72 men out of every 100 receiving under $18 and only four receiving $25 and over.

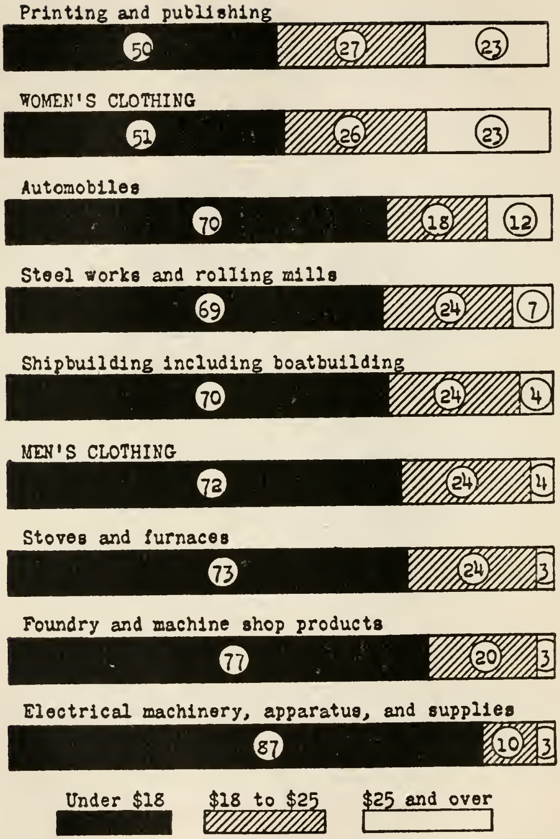


Diagram 2.—Percentage of men in men's and women's clothing and seven other manufacturing industries receiving under $18, $18 to $25, and $25 and over per week

The wage distribution among women workers shows a difference in the two branches of the industry which, while it is not striking, is similar to that among men workers. The wage distribution among each 100 women workers by four classified groups is shown in Table 6.

TABLE 6.—WAGE DISTRIBUTION AMONG EACH 100 WOMEN WORKERS IN MEN'S AND WOMEN'S CLOTHING. CLEVELAND, OHIO, 1914

Weekly wage	Men's clothing	Women's clothing
Under $8	29	31
$8 to $10	40	30
$10 to $12	18	16
$12 and over	13	23
Total	100	100

While 31 workers in each 100 in women's clothing as compared with 29 out of every 100 in men's clothing earn under $8, a considerably smaller proportion,—only 30 in women's clothing as compared with 40 in men's clothing,—earn between $8 and $10. Twenty-three out of every 100 women in women's clothing receive $12 and over; while only 13 out of every 100 in men's clothing receive this amount.

A comparison of the clothing industry with other industries in regard to women's wages makes a more favorable showing than a similar comparison in regard to men's wages. The proportions of women receiving under $8 per week, $8 to $12, and $12 and over, are presented in Diagram 3 for men's and

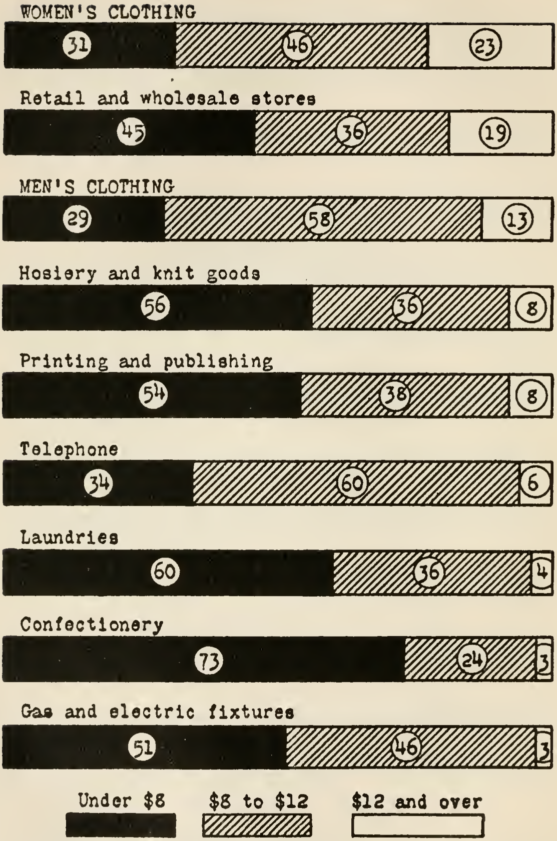


Diagram 3.—Percentage of women in men's and women's clothing and seven other important women employing industries receiving under $8, $8 to $12, and $12 and over per week

women's clothing and for seven other industries employing 500 or more women. The proportions of women receiving under $8 are lower in men's and women's clothing than in the other seven industries. Confectionery has the largest proportion,—73 out of each 100 women,—receiving under $8; while men's and women's clothing have, respectively, 29 and 31 out of each 100. In the proportion of women receiving $12 and over, women's clothing ranks first, with 23 out of every 100; while men's clothing, with 13 out of every 100, ranks third.

WAGES OF BOYS AND GIRLS

The wage distribution among boys and girls under 18 is given in Table 7. Some idea may be gained from these wage figures of the actual worth of a young person in the labor market during his learning period.

TABLE 7.—WAGE DISTRIBUTION AMONG EACH 100 BOYS AND GIRLS IN MEN'S AND WOMEN'S CLOTHING. CLEVELAND, OHIO, 1914

Weekly wage	Boys under 18		Girls under 18	
	Men's clothing	Women's clothing	Men's clothing	Women's clothing
Under $6	33	30	46	16
$6 to $8	40	41	44	55
$8 and over	27	29	10	29
Total	100	100	100	100

Women's clothing pays the better wages to young people. Only 16 out of every 100 girls in this branch of the industry receive under $6, as compared with 46 out of every 100 girls in men's clothing; and 29 out of every 100 girls in the former branch receive $8 and over, as compared with only 10 out of every 100 in men's clothing. The small proportion of young girls earning under $6 in women's clothing work is evidently due to the fact that $6 or more is a minimum wage for girls in two or three of the large women's clothing establishments which make a practice of taking these young workers. A slightly smaller proportion of boys in women's clothing,—30 as compared with 33 out of every 100,—receives the lowest wage amount; while a slightly larger proportion in the former than in the latter branch of the work,—29 as compared with 27 out of every 100,—receives the higher wage amount. From $6 to $8 is the amount most commonly received by both boys and girls in the clothing industry. These wage comparisons all point to the fact that women's clothing work yields a higher wage return than men's clothing work.

Wage Differences in Occupations

In obtaining wage data for the various trades, no attempt was made to gain access generally to payrolls, for such a wage study would have required the expenditure of a great deal more time than could be afforded. Instead, average wages have been worked out from close estimates given by employers for workers in 18 establishments making men's clothing and for 29 establishments making women's clothing; and a few payrolls were secured from the largest establishments against which estimates were checked up.

TABLE 8.—WAGES FOR FULL-TIME WORKING WEEK FOR WORKERS IN MEN'S CLOTHING, CLEVELAND, OHIO, 1915

Workers	Lowest	Average	Highest
Examiners, women	$ 5.00	$ 7.00	$17.00
Basters, women	5.00	8.75	12.00
Ironers, women	. .	9.00	. .
Machine operators, women	5.00	9.25	17.00
Other hand sewers, women	5.00	9.50	15.50
Forewomen	9.00	11.00	19.00
Buttonhole makers, hand	6.00	11.75	16.00
Pressers, under, men	8.00	12.00	18.00
Bushelers, men	10.00	14.00	20.00
Basters, men	9.00	15.50	22.00
Pressers, all, men	8.00	16.00	35.00
Machine operators, men	10.00	16.50	25.00
Trimmers or fitters, men	14.00	17.75	22.00
Examiners, men	15.00	17.75	25.00
Pressers, upper, men	13.00	18.50	35.00
Cutters	12.00	18.75	26.00
Foremen	18.00	29.25	60.00

The various kinds of work in the making of men's clothing do not command fixed rates of wage as do many kinds of work in the machinists' trade and many of the building trades. Quantity of output as well as quality of workmanship is an important factor in determining wages in the clothing industry. Workers doing practically the same kind of work vary so much in the quantity of product they turn out that the occupation is characterized by a range of wages rather than by a fixed rate. Men generally have a greater output than women on the same kind of work; and workers paid by the piece usually earn more than workers paid by the week. An average wage for an occupation thus becomes of slight significance unless the range is also given. In Table 8, which shows wages in occupations in men's clothing work, the lowest and highest as well as the average wages are given.

The highest paid workers are foremen, cutters, and upper pressers, among men workers, and hand buttonhole makers, forewomen, and hand sewers among women workers.

The wages for women's clothing occupations are presented in Table 9.

TABLE 9.—WAGES FOR FULL-TIME WORKING WEEK FOR WORKERS IN WOMEN'S CLOTHING, CLEVELAND, OHIO, 1915

Workers	Lowest	Average	Highest
Assorters	$6.00	$8.75	$14.00
Hand sewers	6.00	10.00	20.00
Trimming girls	7.00	10.25	15.00
Operators,* women	6.00	12.00	30.00
Sample makers, women	10.00	12.75	15.00
Examiners, women	8.00	13.50	18.00
Models, suit and cloak	10.00	15.25	21.00
Forewomen	9.00	16.25	25.00
Operators,* men	7.00	17.75	50.00
Pressers, men	9.00	18.25	35.00
Cutters†	8.00	19.25	30.00
Pattern graders, suit and cloak	13.00	22.00	27.50
Sample makers, men	13.00	22.50	25.00
Examiners, men	16.00	25.00	45.00
Head tailors	18.00	25.00	. .
Foremen	14.00	30.00	75.00

* Includes piece and section operators and helpers to head tailors
† Includes all cutters except foremen, apprentices, and pattern graders

The most highly paid men workers in women's clothing work are foremen, head tailors, and examiners; the most highly paid women are forewomen, models, and examiners. It is noticeable in this table, as in the one giving data for men's clothing workers, that women occupy the lower end of the scale of wages.

Comparison of the wages of workers in similar occupations in men's and women's clothing work results, as did the comparison of men with men, and women with women in the two branches of the industry, in favor of women's clothing. Table 10 presents the wage comparison for workers in similar occupations in the two branches of the work.

TABLE 10.—AVERAGE WAGES FOR FULL-TIME WORKING WEEK FOR SIMILAR WORKERS IN MEN'S AND WOMEN'S CLOTHING, CLEVELAND, OHIO, 1915

Workers	Men's clothing	Women's clothing
Hand sewers, women	$9.50	$10.00
Section operators, women	9.25	11.25
Examiners, women	7.00	13.50
Section operators, men	16.50	15.25
Pressers, under	12.00	15.75
Forewomen	11.00	16.25
Pressers, upper	18.50	19.50
Cutters, cloth	18.75	20.00
Examiners, men	17.75	25.00
Foremen	29.25	30.00

It will be noticed in Table 10 that the occupations grade from lower to higher rates of pay similarly in both men's and women's clothing. In every occupation except one the rate is higher in women's clothing work. The difference in wages in the two branches of the industry is especially noticeable for men and women examiners, forewomen, under pressers, and men section operators.

One reason often given for higher wages in women's than in men's garment making is the greater amount of unemployment which necessitates higher payment for actual time work. This however does not sufficiently account for the difference. The most weighty reason is to be found in the detailed study of the various occupations which shows that a much higher degree of adaptability is required of workers on women's clothing than of those on men's.

Wages for designers are not included with the other wage data since these workers are usually salaried people working by the year. The dozen designers of men's clothing in Cleveland earn from $35 a week up. They seldom get less than $2,000 and usually about $3,000. Designers of women's clothing average about $4,300, with a range of from $2,000 to $9,000.

Summary

There is a striking difference between the two branches of the clothing industry in the proportions of workers receiving low wages and high wages. This difference is apparent in the wages of men and women, boys and girls; and it is accentuated by a comparison of wages paid in similar occupations in men's and women's clothing work.

A smaller proportion of men in women's clothing receives under $15 per week than of those in men's clothing; while a larger proportion of men in the former receives $25 and over than in the latter work. As compared with seven of the largest manufacturing industries in the city, women's clothing takes first rank along with printing and publishing in the low proportion of men earning under $18 and in the high proportion earning $25 and over; while men's clothing ranks slightly below the middle in these respects.

A smaller proportion of women in women's clothing receives under $10 and a larger proportion receives $12 and over than of those in men's clothing. Compared with seven other industries employing 500 or more women workers, men's and women's clothing ranks first in the small proportion of women receiving under $8; while women's clothing ranks first and men's clothing third in the high proportion receiving $12 and over.

Women's clothing has a smaller proportion of boys and girls receiving under $6 and a larger proportion receiving $8 and over than men's clothing. Of the two branches of clothing work, women's clothing is evidently the more lucrative field of employment.

In men's clothing the highest paid occupations for men are foremen, cutters, and upper pressers; for women, hand buttonhole makers, forewomen, and hand sewers. In women's clothing the highest paid occupations for men are foremen, head tailors, examiners, and sample makers; for women, forewomen, suit and cloak models, examiners, and sample makers. Workers in similar occupations are generally more highly paid in women's clothing than in men's clothing.

CHAPTER VI

REGULARITY OF EMPLOYMENT

The amount that a person earns depends on the rate of his pay and the time that he is employed. Both rate of pay and working time may vary in a number of ways. Rate of pay may be by the piece, by the hour, by the week, or by a combination of piece and hour or piece and week. The wages, or rates of pay for a full time working week, discussed in the preceding chapter, take on a different meaning when considered in connection with the amount of time that clothing makers work during the year.

Time differs in nature from rate of pay in that it has a normal standard made up of full time days every week-day in the year. From this standard it may vary upwards by overtime and downwards by unemployment during some days, or some weeks, or by short working days during part of the time. In practice, the typical working year of most garment makers contains some periods of overtime, some of full time, some of short hours, some of short weeks, and some of entire unemployment.

The amount of output of the garment industry fluctuates from month to month with the seasons of the year. The making of clothing is seasonal to meet a seasonal purchasing demand. In April and May most people purchase summer clothes and in October and November winter clothes. During previous months workers have been busily employed making these clothes; but after the height of the purchasing period, they become less and less busy until the first demands of the new season start them into activity again. The term "seasonal" has thus come to be applied to fluctuation in employment recurring with some regularity from year to year and from one season to another.

While the making of men's suits and women's suits and cloaks are alike seasonal in the sense that the same seasons must be planned for, yet the bulk of preparation in the two branches comes at somewhat different times, or as the common phrase is, "the seasons run differently." The busy seasons for making men's suits are from May through August and from December through March. For women's suits and cloaks, the busiest months are March, April, September, and October. Because of the greater change in style in women's garments, the manufacturers wait until the last moment for fear they may not have the latest style note. This throws the making of women's garments later in the season than the making of men's and presses it into a smaller space of time. Women's clothing thus offers greater irregularity of unemployment than men's.

At the time when the output of clothing is considerably increased in anticipation of purchasing demands, the employment of workers must also be considerably increased. This is done either by employing a greater number of workers or by increasing the speed and hours of the workers already employed, or by both methods. "Usual working hours" becomes for a good many shops merely a phrase. During dull periods workers may be busy from a few hours a week to regular working hours; while in rush periods they may work not only the regular working hours but a good deal of overtime.

Fluctuation in employment may thus be measured in two ways; by fluctuation in number of workers, and by fluctuation in amount of payroll. Fluctuation of employment as measured by fluctuation in number of workers is shown in Diagram 4 for the two branches of the clothing industry. This diagram, made from data presented in the report of the Industrial Commission of Ohio, gives the proportion of persons employed on the 15th of each month during 1914. The number of persons on the payroll at the period of greatest employment in each branch of the work was taken as the 100 per cent measure. The period of greatest employment in men's clothing was in March. In July,—the period of least employment,—93 per cent as many people were on the payroll. The period of greatest employment in women's clothing was in February. In December,—the period of least employment,—only 66 per cent as many people were on the payroll. This means that about seven out of every 100 persons who were making men's clothing in March were out of this work in July; and about 34 out of every 100 persons who were making women's clothing in February were out of this work in December.

The proportion of workers unemployed from month to month varies a great deal; that is unemployment is unevenly distributed. If unemployment were evenly distributed, then there would be exactly as many persons out of work one time as at another.

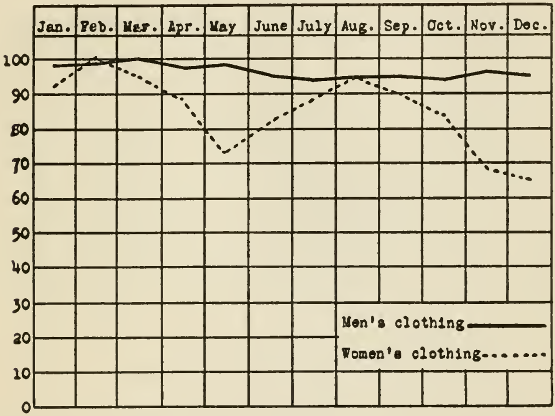


Diagram 4.—Percentage of workers in men's and women's clothing employed each month during the year. The largest number employed in any one month is taken as the base and is represented by 100 per cent

If unemployment were evenly distributed throughout the year, in men's clothing there would always be unemployed about four persons out of each 100; and in women's clothing about 15 persons out of each 100. The same four persons would not be unemployed all the time but the number of unemployed would remain constant. This is called the average number of unemployed. The average proportion of unemployment in women's clothing is about four times as great as in men's.

It can readily be seen that many more persons are engaged in the making of women's clothing than would be needed to do the same amount of work, were it distributed evenly throughout the year. A study made of the regular and overtime hours worked by 4,481 men and 377 women working by the week in the suit, cloak, and skirt industry of New York shows that the work which these persons did under the present uneven distribution could be accomplished by one-quarter of the number of men, or 1,151 workers, and one-third of the women, 110 workers, if the work had been distributed evenly through 52 weeks a year and 50 hours a week less usual holidays.*

PIECE AND WEEK WORK

Intimately associated with employment are the piece and week payment systems. Workers in occupations paid by the week,—such as cutting, examining, trimming, assorting, and busheling,—usually have greater regularity of employment than workers in occupations paid by the piece, and their average wages mean more from the standpoint of yearly earnings. In occupations paid both by the piece and by the week,—such as machine operating, hand sewing, and pressing,—week workers are supplied first with work so that they have steadier employment than piece workers who are laid off automatically as the quantity of work decreases during dull periods.

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* Wages and Regularity of Employment in the Cloak, Suit, and Skirt Industry. U. S. Bureau of Labor Statistics. Bulletin No. 147.

It is hard to find out what is the prevalent attitude of manufacturers and workers towards the two systems. Piece work is satisfactory to both manufacturers and workers in that manufacturers pay only for actual work done and workers can run their earnings up as much as they want to and have greater freedom in working time. On the other hand, workers maintain that the piece work system tends to speed up the worker to such an extent that his strength is impaired; that it forces him into idleness due to lack of work and to lack of system in distributing work; that it permits foremen to discriminate in giving out work so that favorites are always supplied first and with the best paying work; that there is a tendency to reduce the piece rate as workers become speedier and find shorter methods of turning out the same work.

Manner of Laying Off

The firms which lay off some of their force all or part of the dull period may lay off either the poorest workers, those most recently taken on, or the piece workers. Usually all good workers are retained and enough work to keep them fairly busy is provided. Two or three firms have a regular method of laying off so as to work as little hardship as possible. One method is to distribute the layoff among the workers, each being laid off from four to six and a half weeks, one or two weeks at a time. That is, a worker having four weeks layoff during the year may have this distributed so that he has two weeks of it one month and two weeks of it the next. Another method is to lay off the workers in proportion to the period of service they have had with the firm, those longest with the firm having 100 per cent of employment during the year. Some firms maintain that the extra workers they take on in busy seasons are only makeshifts, not of a grade of skill that would warrant keeping them.

Some firms supplement their methods of laying off with devices to assist workers over dull seasons. In one establishment the workers are paid a regular weekly wage, and account is kept of what they do at piece rates. What they make above their regular weekly wage is held back each week and paid in a lump sum at the end of the season to tide them over the dull period.

Comparative Regularity of Employment

As compared with other manufacturing industries in regard to regularity of employment, men's clothing holds high rank while women's clothing ranks rather low. In Diagram 5 the average number of unemployed out of each 100 workers is shown for men's and women's clothing and the other 15 largest manufacturing industries in the city. Men's clothing

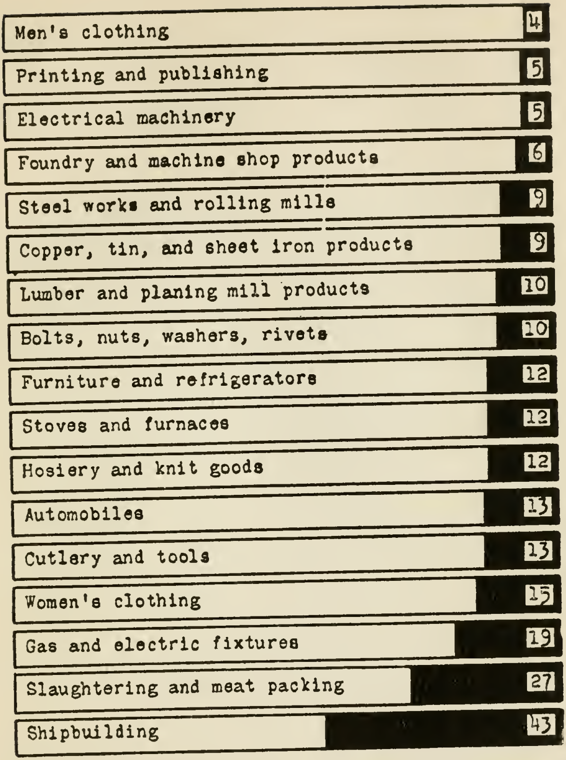


Diagram 5.—The black portions of the bars show the average number of unemployed among each 100 workers in men's clothing, women's clothing and 15 other specified industries

ranks first among the industries with an average unemployment of four out of each 100 workers while women's clothing ranks fourteenth with 15 out of each 100.

Fluctuation in Amount of Payroll

Regularity of employment cannot be justly measured simply by the number of workers on the payroll from month to month; for a worker may be on the payroll and yet work in actual time only two or three weeks out of the month.

This is clearly demonstrated in a large Cleveland establishment making men's clothing where the same number of workers is kept the year round. In this establishment employment has been regulated by two methods. The firm refuses to turn out orders on too short notice from customers and thus avoids the necessity of taking on extra workers for only a short time. The firm also has a stock garment which is so much in demand that it can be manufactured in advance of sales. This is a blue serge suit, made in two weights, a lighter one for summer and a heavier one for winter wear. During the slack periods, when the last season's contracts have been filled and before orders have come in for the next season, the entire force is engaged in making blue serge suits. There are six weeks in the fall and eight weeks in the summer thus utilized.

Although the same number of workers is employed in this factory the year round, it is evident from Diagram 6, that they do not work full time all the year. This diagram shows the fluctuation in the amount of the payroll twice a month from May 1, 1913, to April 30, 1914. The heavy black line, represents the average of the total amounts paid to workers twice a month during the year. The variations in per cent above and below the line represent the variations at different periods from this average payroll.

The diagram shows not only that the amount of payroll fluctuates continuously and irregularly above or below the average but that the amount of fluctuation is large. Workers are evidently earning 14 per cent more than the average amount during the first part of August and the first part of September, and 11 per cent more than the average during February. In the latter part of August they are earning 32 per

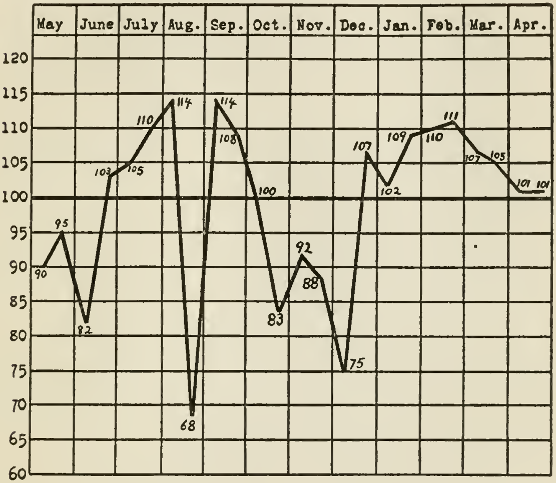
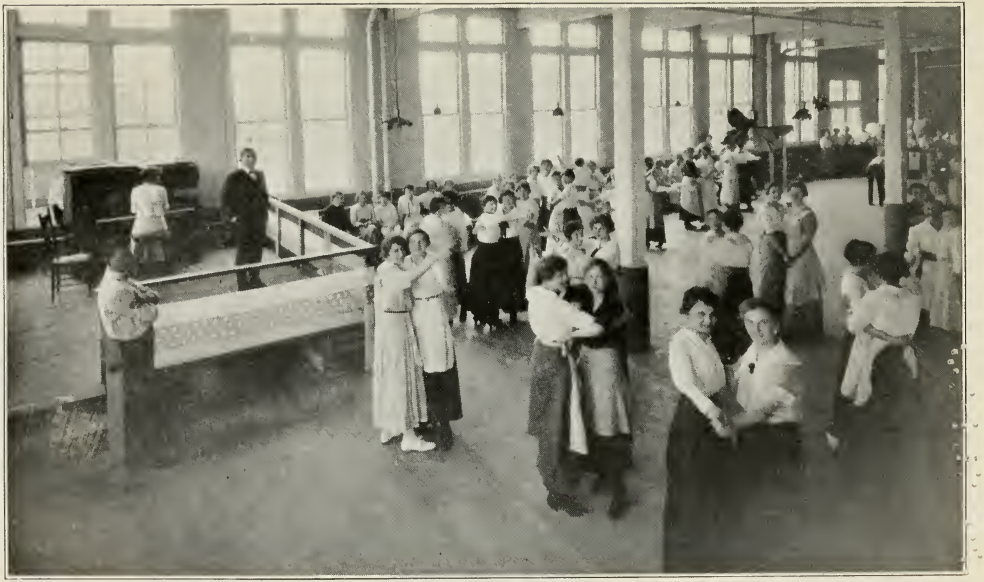


Diagram 6.—Variation in earnings of workers in one men's clothing establishment employing the same number of workers the year round. The average of the total amounts paid to workers twice a month during the year is taken as the base and is represented by 100 per cent

cent less than the average, due to a regular vacation period; in the first part of December they are earning 25 per cent less than the average; in the first part of June, they are earning 18 per cent less and the last part of October, 17 per cent less. Irregularity of employment as indicated in this diagram by fluctuation in amount of payroll appears to be very like irregularity of employment in women's clothing as indicated in Diagram 4 by fluctuation in number of workers.

Earning a great deal more at one time than at another means working longer hours or with greater speed, or both, at one time than at another. If the average payroll represents the earnings made by working regular hours, then for 16 half-month periods (36 weeks) the employees in this factory work overtime and for eight periods (16 weeks) they work part time. If 48 hours constitute a regular working week, hours would vary from 32 to 55 a week according to the variation in earnings. The hours stated by firms to be their regular working hours vary for all the establishments in the city, and range from 44 to 54 hours. Thus actual working hours in one establishment vary to a greater degree than nominal working hours for all the establishments in the city.

From this it can be seen that even where the same number of workers is kept the year round and where the greatest efforts are made to regulate employment, there is still considerable unevenness. Nominal working hours may be actual working hours only a small part of the year; and the weekly wage of a worker



Noon hour recreation

who is on the payroll every day in the year is a variable quantity.

Diagram 4, which shows the variation in proportion of workers from month to month, does not truly represent the amount of unemployment. It merely means that certain numbers of workers were on the payroll at various times. How much of the time these workers were busy we do not know. The 922 men at work on the 15th of July may have been working only four hours a day or three full days a week. At most we can infer that at the busiest season all workers on the payroll worked full time or overtime while during the dull periods most of the workers on the payroll worked part time.

A recent United States report on regularity of employment in the women's ready-to-wear garment industries has used the same index of unemployment,—variation in the amount of payroll from week to week without reference to the number of workers employed. The average weekly payroll for the year, found by dividing the annual total payroll for the main establishment by 52, was taken as the standard, 100 per cent.

Three items were worked out from this standard: the amount of variation of the smallest and the largest weekly payrolls from the average; the number of weeks during which the variation of the weekly payroll from the average was at least 20 per cent; and the number of weeks within which there was an actual fluctuation of at least 20 per cent. Data for these three items were worked out not only for

Cleveland but for New York, Chicago, and Boston,—first, second, and fourth largest centers in the manufacture of women's clothing. Philadelphia, the third largest center was omitted because of serious interruptions in the activity of the industry due to labor disputes. As compared with the cities named, Cleveland showed the greatest regularity of employment in the suit, cloak, and skirt industry, with Boston ranking second, Chicago third, and New York fourth in all three items. Cleveland's range of variation from the average weekly payroll was 74 per cent as compared with 121 per cent in New York; and the number of weeks during which the variation was at least 20 per cent amounted to 21 as compared with 38 in New York. Violent fluctuations occurred in only two weeks of the year as compared with eight weeks in New York. In dress and waist making, Cleveland showed greater regularity of employment than New York and less than Boston while its position in regard to Chicago could not be exactly determined.

SUMMARY

Irregularity of employment, measured by fluctuation in the number of workers, is greater in women's clothing than in men's clothing. The average number of workers unemployed each month is 15 out of each 100 in women's clothing, as compared with four out of each 100 in men's clothing.

Among the 17 largest manufacturing industries in Cleveland, men's clothing ranks first in regularity of employment while women's clothing ranks fourteenth.

Fluctuation in the amount of the payroll in one large men's clothing establishment where the same number of workers is kept the year round shows that there is great irregularity of earnings. At one time workers earn as much as 14 per cent more than the average and at another time as much as 32 per cent less than the average, resulting in the average payroll envelope containing nearly twice as much at some periods as at other periods. Fluctuation in the earnings in this men's clothing establishment resembles the fluctuation in number of workers in women's clothing establishments.

Regularity of employment, as measured by fluctuation in amount of payroll, is greater in suit, cloak, and skirt factories in Cleveland than in New York, Chicago, or Boston. In the dress and waist factories it is greater in Cleveland than in New York and less in Cleveland than in Boston.

CHAPTER VII

FACTORS AFFECTING REGULARITY OF EMPLOYMENT

Employment in the garment trades is determined primarily by seasons and secondarily by changes in style. These two factors together make for irregularity of employment, which may be increased or decreased by further influences, such as quality of product, scale of production, and specialization in manufacture.

If seasons of the year brought no change in style, the making of clothing would still be somewhat seasonal to meet a seasonal purchasing demand. There are two periods of the year, one in the spring and the other in the fall, when people buy most heavily. In order to meet these "rush purchasing demands," there must be produced a quantity of output the amount of which can hardly be calculated accurately enough and far enough in advance to be spread evenly over the year. This means "rush manufacturing periods" when workers are busy up to their greatest capacity with overtime of those regularly employed or a short period of employment for extra workers. The recurrence of seasons, in other words, is in itself an inducement to irregularity of employment.

Change in style so emphasizes the recurrence of seasons that it is a factor of prime importance in unsettling employment. Provided there were no change in style, a certain amount of work could be done anticipating the first demands for heavy fall and winter clothing before the last demands for light weight spring and summer clothing were filled. As it is, before the manufacturing of a season's supply of garments can start, styles must be settled upon, sample garments must be made and sent out through salesmen, and selections from these must be made by merchants. This means a considerable delay in starting the season's work and results in a dull period when many workers have very little to do or are laid off entirely.

The amount of irregularity of employment varies according to the amount and frequency of change in style. A study of the difference between men's and women's clothing in change of style makes this apparent. The earlier that contracts can be made, the sooner can workers begin to make the season's supply of clothing. Men's styles vary so little from season to season that merchants are willing to risk early contracting. Even if they have purchased before the very latest cuff has come in, they can manage to sell their stock of goods, since the latest cuff differs very little from the earlier one. The extremes of fashion are moreover avoided by many men, who desire simply that the suit shall conform in a general way to the current style.

The medium fitting blue serge sack suit is an example of certain standardized or stock garments which are always in demand by men. These can be made up in dull season, while salesmen are securing contracts for the next season's styles, and supply work during what would otherwise be a slack period.

The styles change so radically in women's clothing that merchants want to be sure that the season's fashions have been settled before they make any contracts. The "latest thing" is desired by many women. Manufacturers, playing upon this desire for novelty, compete in producing the newest turn of style in order to increase their sales. Merchants compete in furnishing the newest fashion to their customers. Thus is formed a vicious circle, each member of it holding off as long as possible in order to sound the latest style note while the workers sit with folded hands waiting to be given the signal to begin the manufacture of the season's supply of garments. The greater the change in style the greater the risk in settling styles early, and the less chance there is of early contracting.

The frequency with which women's styles change is an added factor in unsettling employment. The twice-a-year change has given place to a four or five times a year change. With each change, the business of making and sending out sample garments must be gone through before workers can go to work. Dull time thus aggregates a considerable amount for the year. The weather plays an influential part in assisting manufacturers to introduce new styles in the middle of a season. "Seasons!" said one manufacturer despondently. "We don't have seasons any more. If it rains for two weeks, someone invents an umbrella skirt and puts it on the market and then we have to go to work making umbrella skirts or we lose our customers."

The same tendency which brings about radical and frequent changes in style operates to keep women from demanding or expressing a willingness to accept standardized garments. The demand for such garments is prevalent at present only among a special class of women, those who earn their living in the commercial and professional world. The manufacture of a stock suit for women, similar to that for men, is an impossibility at the present time as a general method of reducing unemployment by bridging over the dull periods, although it might be used by a few large establishments. To an ever increasing extent independent self-supporting women with their knowledge of working conditions are influencing women in general so it is likely that their demand for standardized garments for ordinary street wear will spread to an extent appreciable in its effects upon the manufacture of women's clothing.

The blame for exaggerated change in style has the tendency to come back and rest upon the shoulders of the women consumers. The situation, according to a manufacturer who has been trying for years to solve this problem with an evident willingness to consider every contributory factor, is something like this. From the tendencies registered by women in their last season's purchases, manufacturers work out sample suits that are different, believing that if women have had a trouser type of skirt one season they will want a ballet type the next. Merchants concurring with the manufacturers in this belief lay in a small stock of early season goods. In proportion as the early season purchasers select the different styles, merchants lay in stocks of suits for the later and larger group of consumers. The first purchasers of the season select the extremes in largest proportion and so the larger orders which come back to the manufacturers are for these extremes. The manufacturer argues that women want extreme change and it is his business to give it to them.

If it were true that early season buyers represented the whole body of women, then the argument would hold. But this is doubtful. It is largely the women who want extreme styles who rush shopping the minute the season's styles first come out. They are eager to be off with the old and on with the new. They know what they want, and it is the most extreme thing they can get. The merchant, featuring his displays of styles, feels the pulse of these hectic consumers and believes he is feeling the pulse of all the women. He lays in a large stock depending upon what these first buyers have selected.

The later and larger group of purchasers, unlike the first group, do not know what they want. They buy what is on the market, being assured in hesitating moments by enterprising saleswomen, that "this is the latest style." Often they must alter and re-alter before the style is at all becoming. The amount of alteration done on a season's supply of some such garment as the "split" skirt would, if fully recorded, surely throw an amazing light on the attitude of women towards an extreme style. Extensive alteration signifies protest.

There is still another group of women, who, like the first ardent stylists, know what they want. It is not the extreme of fashion they desire nor is it anything so dull as to be termed medium. They want garments with good lines, not overtrimmed, and adapted for the sort of wear they seem intended for. They want a street suit with a skirt wide enough to walk in and a winter coat with a collar which covers up their throat.

The manufacturer who argues that it is his business to give the people what they want, just as it is the business of the theatrical manager to give the people the plays they want, is confronted with a dilemma which he only is in a position to solve. Is he giving the people what they want or is he first making them believe that they want a certain style and then giving it to them? Undoubtedly he is giving an appreciable number of women what they want. The rest he makes buy through his control of the market and through his advertising and selling methods. A considerable number of women are not getting at all what they want but are forced to buy the least objectionable garments in sheer weariness from looking at so many undesirable ones. Many more women bow to the inevitable style dictates although they are far from pleased with their purchases.

The manufacturer puts a certain number of styles on the market and his main task is to persuade people to buy these styles. He sends his salesmen out on the road with the instruction that it is their business to sell their line of goods in some way or other. He advertises far and wide in newspapers, magazines, and on billboards. The merchant concurs with him by using similar methods. He instructs his sales force to sell what there is in the store, whether or not it pleases. He advertises the styles in papers, magazines, on billboards, and by extensive window displays. In every way possible the manufacturer and the merchant exploit the susceptibility which women have toward the prevailing styles.

To moderate styles, to introduce them early, and to maintain them throughout the season is a task that cannot be accomplished by individual manufacturers. In one section of the country progressive manufacturers formed an association some years ago, decided styles early, and agreed not to introduce any new styles during the season. Manufacturers in another section competing in the same selling territory introduced a radical change in the middle of the season. It was necessary for the first group to start manufacturing the new style or lose their hold on the territory, since their customers were cancelling orders for the early styles and giving orders for the later ones.

The manufacturer is confronted on one hand with a large body of workers demanding regularity of employment and a larger public demanding style effects, on the other hand with the task of making a satisfactory profit. The manipulation of styles for the justly

Between morning and afternoon work

proportioned benefit of workers, manufacturers, merchants, and consumers can only be accomplished by the coöperation of all garment manufacturers, the coöperation of merchants in featuring moderate styles, and the coöperation of women consumers in making their own choice of purchase rather than being over-persuaded by the appealing "latest style" in the hands of the saleswoman.

An indirect factor affecting regularity of employment is scale of production. Large scale production necessitates a careful system of accounting. Through it is shown how much loss accrues to the firm from an idle plant and from the extra cost entailed in hiring many new workers twice a year. This makes for a more conscious attempt on the part of manufacturers to devise methods to regulate employment.

A second and more direct employment factor is quality of product. The determining element in early contracting is the amount of manufacturing which can be done without risk in advance of sales. The cheaper the grade of goods the less risk there is of losing on it and the greater the part of it which can be manufactured in advance of sales.

A third factor important in its effect on employment is specialization in manufacture. The factory which confines itself to the manufacture of only one line of goods, worsted suits and cloaks, for example, is bound to have more irregular employment than the one which manufactures several related lines which will dovetail together in their seasonal aspects. The degree to which dovetailing can be carried is illustrated by the practice of a Chicago establishment manufacturing eight distinct lines of garments: house dresses, dressing sacks, wrappers, kimonos, aprons, maternity dresses, petticoats, sanitary appliances, millinery, and garters.

Regulating Employment in Cleveland

It is likely that the increasingly large scale on which production is carried on in Cleveland has had a great deal to do in regulating employment, especially in the manufacture of women's clothing. Manufacturers are gradually gathering all their workers under one roof instead of having them scattered about in small contract shops. The loss from an idle plant and from extra cost in hiring new workers at the beginning of seasons has assumed such bulk in the aggregate that they are making every effort to keep their plants in operation and the same body of workers on the payroll the entire year.

Another factor which makes for regularity of employment in Cleveland is the method of disposing of the finished product. Cleveland is a "selling market," that is, goods are disposed of through the orders of salesmen traveling over certain territory outside of the city. The orders are secured as far in advance of the season as possible. Thus Cleveland manufacturers know a certain length of time ahead how much work they will be expected to turn out and can hold their workers accordingly. New York, on the other hand, is a "buying market." This means that goods are disposed of on the premises to buyers who come from cities and towns all over the country for the purpose of purchasing, and the amount of the demand cannot be foreseen.

Manufacturers of men's clothing in Cleveland are making a determined effort to bridge over the dull seasons by early contracting and by making up stock garments at this time. Even some of the special order houses, which are equipped for doing more highly skilled work, keep their workers busy on stock ready-to-wear garments during the dull season. As a result a greater proportion of workers are kept on the payroll the year round, although the earnings of these workers are very irregular as was pointed out in Chapter VI.

In the manufacture of women's clothing, several expedients are resorted to in Cleveland to make early contracting possible. In order to plan early for the season, about two-thirds of the suit and cloak manufacturers, employing about 85 per cent of the suit and cloak workers in the city, have an association through which, with the coöperation of similar associations in Chicago, Toledo, and Cincinnati, they maintain a style bureau in Paris. As early as possible their Paris representative brings to them sample garments exhibiting what are likely to be the fundamental lines for the season. All the members of the association coöperate in accepting these fundamental lines from which they work out their own styles. They can set to work early making sample garments and send their salesmen out on the road soon enough to get contracts to furnish work during those months which would otherwise be dull.

Operating directly with the fountain head of styles thus becomes an important consideration in making possible early contracting, which is further facilitated by the quality of product manufactured. The cheaper the goods the greater the part of it which can be manufactured in advance of sales. As judged by the per cent of total expenditure paid out for materials, Cleveland makes a somewhat cheaper grade of garments than New York, Chicago, or Boston. It can thus afford to take a greater risk and secure early contracts.

A powerful factor which works against regularity of employment in Cleveland is specialization in manufacture. The production in each establishment in this city is confined for the most part to one line of goods,—suits and cloaks, dresses, or waists. Only a few manufacturers have shown a tendency to risk putting in related lines of goods which will so dovetail as to furnish employment the year round.

SUMMARY

The recurrence of seasons is in itself an inducement to irregularity of employment. Simultaneously with the change in seasons occur heavy buying periods which must be preceded by heavy manufacturing periods. Change in style increases irregularity of employment by influencing manufacturers to hold back work on the new season's garments until the styles are settled.

The amount of irregularity of employment varies according to the amount and frequency of change of style. Styles in men's clothing change little from season to season and there are certain standardized garments which are always in demand by men. Styles in women's clothing change radically not only from season to season but sometimes in the middle of a season. As yet standardized garments are not in demand by women in general. Irregularity of employment thus tends to be much greater in the making of women's clothing than in the making of men's.

Three factors affecting regularity of employment are scale of production, quality of product, and specialization in manufacture. Large scale production tends to regulate employment by making manufacturers more conscious of the wastefulness of an idle plant and extra cost in hiring new workers each season. Quality of product affects regularity of employment in its influence on contracting. The cheaper the grade of goods the less risk there is of losing and the earlier can contracts be made. Specialization in manufacture makes for irregularity of employment.

Large scale production and disposing of finished product by sending salesmen out on the road to secure early contracts make for regularity of employment in Cleveland clothing establishments. In the manufacture of women's clothing, early contracting is facilitated by the maintenance of a style bureau in direct connection with Paris and by the manufacture of a somewhat cheaper grade of goods than is turned out in some other cities. Specialization in manufacture in Cleveland works against regularity of employment.

CHAPTER VIII

TRAINING AND PROMOTION IN THE INDUSTRY

Some years ago the contracting shop district of the city known as Newburgh was the great industrial training center for workers in the clothing industry in Cleveland. Now that the contracting system is on the wane and a larger proportion of the work is done in factories, employers are beginning to give the matter of training considerable attention. Three or four of the largest establishments have organized effective systems of instruction for beginners. In the other establishments, however, the most meager instruction is given or none at all.

It was almost impossible for the Survey to get definite answers from employers as to the length of time required for learning the various trades. The answer often given, "It depends on the ability of the learner," is true, but not illuminating. The estimates given in the following pages are based on the opinions of employers and foremen who have had considerable experience in training workers.

Designing

Designing is the top-notch position for ambitious workers. No systematic training is given for this work nor is there any sure way of approach to it. The prospective designer usually learns to cut out and make garments through an apprenticeship to custom tailors and to factory cutters. To get the technical instruction necessary for his work he may take a few weeks "course in drafting" with a private teacher who charges him two or three hundred dollars, or he may be sent by his firm to a designing school. After he has applied the theory of drafting to actual work long enough to say he has had "practice in designing," he boldly applies in a new establishment for a position as regular designer.

Most designers of men's clothing in Cleveland have had courses in the theory of drafting and grading in some designing school in New York or Chicago. The following outline was given by a widely experienced designer of men's clothing as an ideal training course for the boy just out of school who wishes to learn this work.

1. Work with a custom tailor one year as an apprentice to learn how garments are made.
2. Spend six months or a year learning cutting.
3. Spend one or two years learning machine operating in a tailoring shop where the section method of work is used.
4. Take a six months course in a designing school in the theory of drafting and grading.
5. Work with a practical designer in a large factory for two years.

Many of the present designers of women's clothing in Cleveland have added courses in designing schools in

New York City to their European tailoring experience. Some of them, however, work by rule of thumb and cannot draft patterns correctly. The demand for novelty in women's clothing so absorbs the effort of many designers that they pay far too little attention to good technique in drafting. As a result the lines of the garments suffer.

"The best of them are copyists, the worst are pirates," is an extreme characterization, which, while not literally true, expresses the need in this country for creative designers of women's clothing. It is strange that more Americans have not attempted to enter this work in view of its high wage returns and interesting character. The trouble with the American worker is that he balks at learning how to make garments as a basis for studying designing. The sort of designers that manufacturers are looking for need native ability and training in costume designing coupled with practical experience in the making of garments and the drafting of patterns.

MACHINE OPERATING

The workers who do the most difficult operating, such as piece operating on suits and cloaks, are mostly foreign born tailors already familiar with a wide range of work on ordinary sewing machines. Instruction in power sewing machine operating is all they need to adapt themselves to factory work. Beginners on easier work, such as dress and skirt piece operating or section work, are recruited largely from men and women with no previous training in garment making. As a result they must have instruction not only in the running of power machines but also in the handling of materials under needle machinery so as to perform correctly the various operations necessary in garment making.

With but few exceptions, organized training for this work is found only in the largest establishments. Some firms give errand girls a chance to practice operations at idle machines with what help they can get from a regular worker or forewoman. Some firms grudgingly break in a few workers if necessity forces them to. Others do not bear their share of the burden of training but take a chance at getting experienced workers from other factories.

In the larger factories the management usually tries to find for each girl the operation that she can best do and that she likes to do. She remains at this operation indefinitely unless her work deteriorates in quality or quantity or unless it appears that she is not adapted to it. Contrary to natural expectation, most of the girls are unwilling to change to other operations even when there is no loss in wage. In many instances they have an inherent dislike of shifting from work which they can do well to that which they know very little about. Sometimes they refuse to change to an operation paying five or 10 cents more an hour if it separates them from friends with whom they have been accustomed to sit.

The beginner is instructed first in the running of the machine, starting, stopping, and controlling the power, and in threading the needle quickly. She is then taught how to handle materials in easy seaming operations and is transferred from these to other operations on which workers are needed.

There is general agreement among employers that a girl who has never operated a machine can learn an easy operation well enough in four weeks to be employed at regular piece rates. She requires a much longer time to become a first class worker on a single operation. To acquire skill in a group of operations so that she can easily transfer from one to another takes from one to two years.

In one establishment all machine operators are instructed in hand sewing for from two to six weeks in order that they may become accustomed to the handling of materials. They are then put into a regular section of machine operating and are given help as they need it. A wage of $6.00 is guaranteed to them for the first six months and $7.00 for the second six months, at the end of which $8.00 or over is guaranteed according to the difficulty of the operation and the ability of the worker. To allow for different degrees of skill, earnings in excess of the guaranteed wage are paid in the form of a bonus.

Another firm pays a minimum wage of $7.00 and gives organized instruction in section work for from three months to a year on easy operations. Operators are transferred from one operation to another in order that they may acquire adaptability. This firm stated that one year is required on the average to make an acceptable operator out of a green hand.

The time required to learn section operating is from two to six weeks if it is a matter of learning a single operation well enough to hold a job at regular piece rates. If it is a matter of learning a single operation well enough to earn a living wage and a sufficient number of other operations to which the worker can transfer to hold her job in dull times, a rough estimate for the average girl is about a year.

Advancement for machine operators comes in the form of increased pay for increased output on the same operation, or promotion to a more difficult operation for which higher rates are paid. Section operators may become piece operators and sample makers. Helpers to head tailors may become piece operators, sample makers, or even head tailors.

Hand Sewing

Systematic instruction in hand sewing is given in only a few establishments where beginners are often tried out on basting and later instructed in the various finishing operations. In most establishments girls are not employed unless they know how to do plain sewing. Foremen and forewomen help them to adjust this knowledge to factory methods by suggestions and incidental instruction. According to employers' estimates this period of adjustment is from six months to a year. Hand sewers occasionally transfer to other kinds of work, assorting for example, or more often machine operating. Button sewers sometimes become markers.

Cutters learn their work through a so-called apprenticeship. They usually start as errand boys, cloth boys, bundlers, or helpers to regular cutters. An errand boy has the run of the shop with plenty of opportunity to observe in a general way how the work is carried on. A cloth boy, in carrying goods to the cutters, learns about materials and cutting processes. A bundler learns the different pieces of the garments in his work of bundling together cut pieces. In busy seasons boys with no previous experience are often put to work immediately as helpers.

The first apprenticeship tasks are helping the regular cutters by bringing them the necessary patterns, laying cloth in piles ready for cutting, and notching cut pieces. As soon as learners have a fair idea of the work, they are allowed to cut out small pieces, such as collars and cuffs, or to block out canvas. They learn the technique of laying patterns by marking around those laid by regular cutters. They then practice laying patterns under the guidance of experienced workers after which they are advanced to regular work. There is no formal system of instruction. Boys must pick up the trade as best they can by observation and practice.

Several avenues of advancement are open to the regular cutter of women's clothing. He may become a machine cutter, sample or special order cutter, grader, head cutter, or foreman. While graders often work into their positions through the ranks of the regular cutters, they are sometimes taken on directly as under-graders.

Employers estimate that it takes from two to six years for a beginner to become a regular cutter, depending on the ability of the boy to learn, the chance he has of getting instruction on the job, and the opportunity given him of advancing to the next higher job. It is probable that the trade can be learned in much shorter time than the average beginner spends by the present desultory method of "picking it up" as best he can.

Those employers who make any effort to train their apprentices give the following estimates as to the time required to learn the different kinds of cutting work:

Canvas cutting	Six months to one year
Lining and trimming cutting	One year to one and a half years
Cloth cutting	One year to three and a half years

Pressing

In not more than two or three establishments are beginners regularly instructed in pressing. In some shops where the team system is used, "boss" pressers train their own helpers. It usually takes about eight weeks for beginners to become responsible seam pressers. To become skilled pressers requires from six months to a year on skirts and dresses, and from two to three years on jackets and cloaks. Women ironers on waists require about three months to learn to press delicate fabrics unless they have had previous training in a laundry.

Examining

Examiners have usually had considerable previous experience in garment making as machine operators or finishers. They may be advanced directly from garment making to examining or they may be taken on as helpers to the regular examiners. The amount of previous experience required ranges from three to eight years, depending on the kind of garments.

Trimming and Assorting

New workers learn trimming or fitting by acting as helpers to regular trimmers for a year or two, or through experience in some other department where they have learned a good deal about materials and the makeup of garments.

Assorters learn their work by assisting an experienced girl. In a month's time a girl can become a competent helper but it takes two seasons before she can work on her own responsibility without making many mistakes. Assorters rarely work into any other position in the factory although they may become machine operators.

Employers estimate the learning period for trimming girls at from a few weeks to two years, according to the ability of the girl and the difficulty of the work. The highest wages are paid in those establishments which demand the longest learning period. Trimming girls may work into the regular office end of the business.

For the most part foremen are selected from the working force although some establishments train especially for foremanship. In one shop the foreman started as a shipping clerk, became a general helper in the shop, assisted the foreman in giving out work, and was finally advanced to foreman. In another shop the forewoman of the machine operators began as a cleaner and later became a machine operator from which position she was advanced to forewoman. In one of the factories the forewomen who have charge of sections of machine operators, made up of about 25 workers each, have been advanced to their positions directly from either examining, running errands, working in the stock room, or machine operating. The establishments which train directly for foremanship take young men and women who have had a high school or college education and, after giving them a course of general instruction in the work of the shop, put them in charge of a section or department.

Frequently people who are competent to be foremen and forewomen refuse promotion to these positions because they do not like the additional responsibility, or because they prefer to remain with their fellow workers, or because they like the feeling of turning out product too well to consider changing to supervising work. The chance of advancement to foremanship depends upon the number of vacancies occurring during the year as well as on the ability of the worker. Among nearly 200 foremanship positions in women's clothing establishments there were only a half dozen vacancies during 1914. Employers say, however, that they cannot get enough persons with foremanship ability to fill their vacancies. Most workers, an experienced superintendent says, have become too deeply immersed in one particular part of the work to have the vision required to take charge of people.

TABLE 11.—EXPERIENCE OF 10 FOREMEN AND 10 FOREWOMEN IN THE CLOTHING INDUSTRY BEFORE THEIR PROMOTION TO FOREMANSHIP

Foremen	Length of service
Apprentice	3 months
Examiner	7 years
Trimmer	6 months
Presser, assistant foreman	3 years
Machine operator, assistant foreman	6½ years
Hand sewer, examiner, assistant foreman	1½ years
Section counter, assistant foreman	4 years
Coat baster, coat examiner, assistant foreman	5½ years
Facing stitcher, manufacturing clerk, assistant foreman	3½ years
Stock clerk, manufacturing clerk, examiner, apprentice, assistant foreman	6½ years

Forewomen	
Apprentice	6 months
Assistant forewoman	9 years
Hand sewer, examiner	2 years
Hand sewer, assistant forewoman	3 years
Hand sewer, machine operator, assistant forewoman	3 years
Hand sewer, sectional counter, assistant forewoman	6 years
Machine operator, assistant forewoman	2 years
Route clerk, production clerk, assistant forewoman	6 months
Sorter, machine operator, assistant forewoman	7½ years
Ticket clerk, trimming clerk, route clerk, assistant forewoman	6 years

Some idea of the course of promotion may be obtained from Table 11 which shows the different kinds of work previously done by 10 foremen and 10 forewomen and the number of years they were employed in the factory before reaching their present positions.

OTHER WORK

Most of the remaining occupations require so little skill that only a few preliminary directions are needed. An exception is draping dresses which requires from six months to a year to learn.

SUMMARY

Designers learn their work through apprenticeships to custom tailors and cutters and by taking supplementary courses in drafting and grading of patterns in a designing school. Most designers in Cleveland have had training in designing schools in New York or Chicago.

Organized training for machine operating is found, with but few exceptions, only in the largest establishments. There is a general agreement among employers that it takes a girl who has never operated a machine before about four weeks to learn an easy operation well enough to be taken on at regular piece rates. A much longer time is required to become a first class worker on a single operation, and to acquire skill in a group of operations takes from one to two years.

Girls are not usually employed as hand sewers unless they know how to do plain sewing. It takes from six months to a year for a girl with this knowledge to learn factory sewing well enough to be regarded as a regular worker.

Cutting has a so-called apprenticeship lasting from two to six years. There is no formal system of instruction. Boys must pick up the trade from observation and practice. Beginners start as errand boys, cloth boys, bundlers, or helpers. To learn the first grade of cutting,—canvas cutting,—requires from six months to a year; the second grade,—lining and trimming cutting,—from one year to a year and a half; and the third grade,—cloth cutting,—from one to three and a half years. Length of apprenticeship depends upon the ability of the boy to learn, the chance he has of getting instruction on the job, and the opportunity given him of getting into the next higher job.

Training for pressing is not usually given. "Boss" pressers, heads of teams of workers, sometimes break in their helpers. It takes about eight weeks for a green hand to become a good seam presser. To become final presser on skirts and dresses requires from six months to a year, and on jackets and cloaks from two to three years.

Examiners learn their work through previous experience in garment making which takes from three to eight years, according to the difficulty of the work.

Trimmers and assorters learn their work acting as helpers to experienced workers. A year or so of experience is required before these workers become responsible in their positions.

Foremen are selected from the working force or, in a few cases, trained especially for their positions. Frequently workers who are competent to be foremen refuse promotion to these positions. Although there are few opportunities each year for advancement to foremanship, employers declare they cannot get enough persons of ability to fill vacancies. Among nearly 200 foremanship positions in 1914 only six vacancies occurred. A study of the previous experience of foremen and forewomen shows that they come from nearly every line of work in the factory and that they may work anywhere from three months to nine years before being advanced to their positions.

CHAPTER IX

EDUCATIONAL NEEDS OF GARMENT WORKERS

There is one quality which proprietors of garment making establishments value above all others in their employees. This quality is adaptability. In common with other employers of labor, those who direct the work in garment making factories value such qualities as general intelligence, speed, precision, and manipulative skill. Nevertheless those qualities are not so important in this particular industry as is adaptability.

The reason for this is that the manufacturing of clothing differs from almost every other kind of manufacturing work in the frequency and rapidity with which changes take place in the size and shape of the pieces handled and the great range of materials which must be manipulated by the same workers. In the first place there is an annual change from light to heavy in the weight of the cloth being made up into garments for summer and winter wear. In the second place the size and shapes of the pieces handled are determined by changes in style which vary from the slight annual shifts in men's clothing to the revolutionary ones in women's garments. In the third place the nature of the work is constantly affected by the great variety of fabrics employed, varying from thick to thin, smooth to rough, closely woven to loosely woven, and from plain weave to fancy weave. This variety is so great that an ordinary clothing establishment will make garments from as many as 200 different fabrics in one season and each operator is likely to be called upon to work on as many as 60 different kinds of cloth. There is scarcely any other industry in which the operators are asked to adapt their work so frequently to so many changes.

It is impossible to make more than the most general suggestions as to the contribution that the public schools might make toward developing the quality of adaptability in present or future garment workers. About all that can be said is that the changes that have been going on in our educational systems during the past quarter of a century are conducive to this result. For the sake of all future citizens as well as of that minority which will go into the garment industry, it is to be hoped that our schools will continue to make their courses of study and methods of work progressively less stereotyped, more flexible, and better adapted to serving the needs and developing the abilities of each individual child.

PERSONAL HYGIENE

An important concern of garment workers, is physical welfare. More than many other groups of industrial workers they would profit from enhanced physical vitality and the acquisition of habits of health. Here

Good eyesight is an important asset for garment makers

again the work now being done by our public schools has shown marked and steady improvement during the past few years and about all that the situation calls for is a steady continuation and extension of the work now under way.

English

Another need of garment workers is a sufficient knowledge of English to enable them to ask questions and understand directions. In view of the unusual variability of the work of the garment workers, it is probable that their need for English is somewhat greater than that of workers in industries where the products and processes are more uniformly standardized. Even so, the testimony on this point is not unanimous.

"We do not care whether they speak English or not, just so they can make suits," said one lone manufacturer as against a score who testified more or less in these terms: "We want our workers to know English so that they can understand directions given and ask questions about what they do not understand." A union official, on being asked what sort of education or training should be offered workers replied, "First of all teach them English."

In one of Cleveland's largest factories English instruction has been carried on systematically for more than two years. The services of five public school teachers were secured for two hours each week during a period of about eight months of the year. The instruction was given from 4:30 to 5:30 in the afternoon after the workers had finished their tasks. About 200 employees were enrolled in the classes. The instruction was followed up by helping the workers secure easy books in English from the public library. At the present time the public school teachers have been replaced in this factory by a full-time teacher employed by the establishment. In addition the firm has adopted the policy of employing no new workers who cannot speak English and of permitting the use of no other language than English in the giving of directions.

There can be no doubt that every mentally competent adult needs a speaking knowledge of the language of the country in which he lives. Garment workers form no exception to this rule. Their lives would be rendered happier and more useful and their work easier and more productive if they possessed a common means of communication with each other and with those about them.

This problem of teaching English is one of the most serious which confronts the school authorities of the city. Cleveland has an unusually high percentage of foreigners in its population. The number of these who do not speak English is not only great but it is steadily increasing. The presence in the population of tens of thousands of non-English speaking people rapidly increasing in number constitutes an industrial weakness and a civic danger of serious proportions. This subject is more fully treated in another volume of this series entitled, "The School and the Immigrant."

ARITHMETIC

All clothing workers should have a practical knowledge of the fundamental operations of arithmetic. They need it in order to know, as the workers sometimes say, "where they are at in their work." Where the piece and section systems of work are in operation, it is important for the worker to be able to keep account of what he has accomplished and to know enough arithmetic to check his own record with the tally kept by the foreman or payroll girl. In some occupations of the industry, such as cutting, a more extensive knowledge of arithmetic is necessary. For the children who are now in school the arithmetic as taught at present will meet future needs. Results would be even more profitable to these future workers if the work were given more concretely than it is at present. It would be more useful if the pupils were regularly taught to think of arithmetic as something to be used in connection with objects, people, money, and time, rather than in connection with symbols, abstractions, paper, pencil, and textbook.

INDUSTRIAL INFORMATION

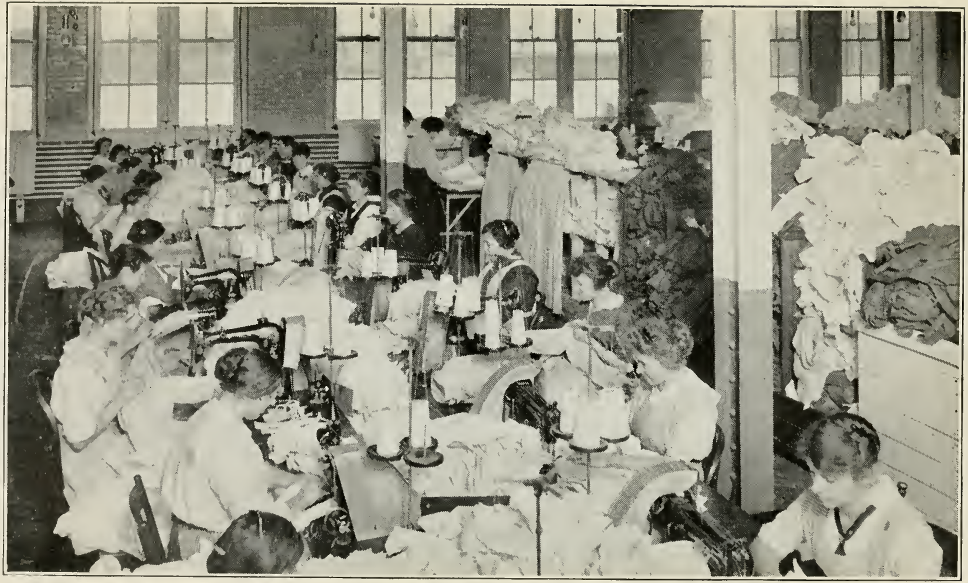
All workers and prospective workers need a knowledge of industrial conditions. They would greatly benefit from a better understanding of the supply of labor, factors affecting prices, organization of workers, industrial legislation, the relative importance of different industries, the nature of important industrial processes, and the like. At the present time there is little opportunity for gaining such information either before entering any specific line of work or afterwards. This is one of the fields which must be cultivated by technical, trade, and vocational schools and courses. Such knowledge is important as a part of general intelligence and essential as a feature of vocational guidance.

DRAFTING AND DESIGN

For certain small groups within the clothing industry there are needs in the way of technical training that are important and at present unsupplied. Work in applied mathematics, drafting, and design is needed by a considerable number of employees who are occupying or working towards advanced positions. They are sufficient in number so that they would constitute fair sized classes. That they need such instruction is eloquently evidenced by the fact that it is not uncommon for one of them to pay two or three hundred dollars for a short course in designing given by a private teacher. This is the type of work which should come within the scope of the evening technical high schools. It is advanced, it is technical, it is needed by considerable numbers of people, and there is an active demand for it.

HAND SEWING

A large proportion of the workers in the industry need skill in hand sewing. A considerable number of



A section of machine operators in a blouse factory

them are engaged industrially at such work. Before prospective workers enter the industry they need careful and systematic training in ordinary sewing, plain sewing stitches, the sewing on of buttons and other fastenings, and buttonhole making. The training now given in the public schools does not furnish a foundation for such skill and knowledge as are required, as will be shown in the following chapter. The training that is needed should be available to future workers through some branch of public school work because there is no adequate opportunity to get it in the industry itself. How this training may best be supplied will be considered in Chapter XI.

Machine Operating

Nearly one-half of the workers in the clothing industry are engaged in operating power-driven sewing machines. This is the most important occupation in the industry and it employs more women than any other industrial occupation in the city except perhaps dressmaking. After a very careful study of the characteristics of this occupation and the various conditions affecting it, the Survey has reached the conclusion that there ought to be established in this city a trade course for training prospective power operators. Because of this recommendation—which will be discussed in Chapter XI—it is worth while to consider power operating in some detail at this point.

Besides the importance of the work, there are several reasons why it would be advisable to establish a school in this city for training these workers. The industry itself does not offer adequate opportunities to the newcomer to learn the work. Since newcomers are brought into the service at times when the factories are busy, it is impossible to train them in the work without withdrawing some of the machines from profitable production in order to make them available for teaching purposes. This the manufacturer is very loath to do. The result is that he reduces to the lowest possible minimum the amount of teaching given each new girl. His immediate object is not to train the girl to become an all-round operator, but rather to give her a short intensive training that will teach her to do one small operation well. If the girl is of average intelligence, it is often possible to do this within two weeks so that the new operative becomes a profitable employee.

This does not mean, however, that the girl has learned the trade. She can do only one operation and perhaps she can do that successfully on only a limited range of fabrics. She cannot get an opportunity to do other work for the same firm without going through another period of teaching nor can she secure a position with another firm unless they happen to have precisely the one vacancy for which she is equipped.

If this prospective worker could secure an all-round training in the fundamental operations of factory garment making, she would be able to earn fair wages from the outset, her chance of promotion would be greatly increased, the possibility of transferring from one firm to another would be much greater, her own adaptability and general intelligence concerning her work would be enhanced, and she would be a far happier worker and a much more profitable one.

Besides these reasons there is another important one which makes it seem advisable to consider the establishment of such a school as the one suggested. This is that at present there is usually a serious gap between the time that the girl leaves school and the time that she can secure employment in the clothing factory. Under the present compulsory attendance law she must continue in school until the age of 16. But in general she will not be able to get a position in the factory until she is 18, for if she does, she must have an age and schooling certificate which the employer must hold and must stand ready to show to the inspector whenever asked to do so. Most manufacturers object to the trouble that this matter of certification involves and hence will not employ girls under the age of 18 unless there is a serious shortage of help.

Time Needed to Learn the Trade

Learning machine operating may involve learning to sew up all the seams on a garment or it may involve only learning how to sew up one seam. The one task involves much more skill and knowledge than the other, but both of them involve more than is apparent at first sight.

In factories where the work is done by the section method, many foremen, when questioned as to the length of time needed by a new girl to learn the work used such phrases as "two weeks is enough," "automatic work," "nothing about it to learn," "the machine does it all," and the like. Nevertheless careful inquiry revealed that these same foremen complained that they could not change the operatives from one task to another; that they had no adequate understanding of the relations of each part of the work to the rest; and that the workers were not competent to move on to the more difficult and complicated operations.

Learning machine operating involves two things,—running the machine, and handling the materials. During the first week or so the beginner's mind is focused on learning to run the machine. Like the person who is learning to run an automobile, the operator must learn to start and stop the power at exactly the right time to get the machine over the proper amount of ground. The power is under the control of the operator and the essential need is for the learner to acquire such a coördination of hand and eye that this control will become an automatic matter. The "feel" of control over the power, though not difficult to attain is not speedily gained by some girls because of a certain amount of fear which they have of a power not within themselves, coupled with a general fear of machinery.

After starting and stopping become more automatic, the attention of the worker is centered on the handling of the material. This is the truly difficult part of the operation. The material is different from most stock used in the industrial world in that it is flexible in every direction. It puckers, stretches, and catches if given the slightest opportunity. The operator is not a mere feeder. The skill has not been entirely transferred from the operator to the machine as it has in many other industries. A high degree of manual dexterity is essential.

Moreover, the operator requires the adaptability that has already been referred to. At one time she may be handling poplin, at another serge, at another broadcloth, at another some fancy weave, and so on through 50 or 60 changes during the season with each new kind of cloth acting in an entirely different way under the needle and requiring a different deftness in handling. The making of the two halves of a garment exactly alike adds to her difficulties.

Moreover the section operator does not do exactly the same thing over and over on different materials. Changes in style necessitate changes in operations and the sleeve maker may find herself doing an operation in the fall that is quite different from the one she did in the spring. According to an analysis made in one large establishment, only 40 per cent of the operations remain the same on women's suits from one season to the next. Comparatively speaking, machine operators are learners during the first part of each new season. This is shown by the fact that the payroll increases week by week during the season for individual full-time workers as greater skill is acquired on the new operations.

Most employers consider that a girl is a machine operator when she is expert at one operation and can transfer easily to another operation of the same general sort. This degree of proficiency requires a training of about a year's duration and a girl who possesses it earns a weekly wage of $8.00 or more.

SUMMARY

Garment workers need an unusual degree of adaptability because of the frequency and rapidity with which changes take place in the size and shape of the pieces handled and because of the great range of materials used. It is to be hoped that our schools will continue to make their courses of study and methods of work progressively better adapted to developing the abilities of each individual child.

Garment workers need a sufficient knowledge of English to enable them to ask questions and understand directions. The problem of teaching English is one of the most serious confronting the school authorities of the city.

Clothing workers need a practical knowledge of the fundamental operations of arithmetic. The arithmetic as taught at present in the public schools will meet fairly well the future needs of the children now in school.

All workers and prospective workers need a knowledge of industrial conditions. Such information should be given in connection with technical, trade, and vocational courses in the public schools.

Designers and cutters need technical instruction in drafting and grading of patterns; and designers need in addition costume design. Courses in these subjects should be given in the evening technical high schools.

Before hand sewers enter the industry they need careful and systematic training in ordinary sewing. The training now given in the public school does not furnish the necessary foundation for factory hand sewing. In Chapter XI there is a discussion as to how this training might be supplied.

Machine operators are the largest group of workers in the clothing industry and are more numerous than any other industrial group of workers except perhaps dressmakers. The characteristics of machine operating and the various conditions affecting it are such that the Survey recommends that a training course be established to prepare for it in a proposed trade school for girls in this city.

CHAPTER X

SEWING GIVEN BY THE PUBLIC SCHOOLS

It is difficult to make a clear statement as to the amount of training in sewing given in the public schools because the work differs widely in different grades and schools, in method, purpose, and the amount of time devoted to it. In the elementary schools manual training sewing is given in the fifth and sixth grades. The work consists of one hour a week of hand sewing. This is taught by a regular grade teacher, usually a fifth or sixth grade teacher but occasionally a seventh or eighth grade teacher, or sometimes by a domestic science or other special teacher. The statement in the outline of the manual training sewing work is as follows: "The aim of this course is to give a knowledge of practical sewing which may be of use in the home."

Courses in the Training Centers

In five elementary schools hand and machine sewing is taught by special teachers in the seventh and eighth grades, in three of them in the sixth grade, and in one school in the fourth and fifth grades. This is directed from the standpoint of the girl's participation in the family sewing. About four per cent of all the seventh and eighth grade girls in the elementary schools receive this instruction. From one and one-half to three hours a week is devoted to it in the five schools where it is taught in the regular grades: Mound, Eagle, Fowler, Warren, and Marion. The sewing given to special classes of retarded children is not discussed here as our problem deals with the mass of children in the regular elementary grades.

SEWING IN THE HIGH SCHOOLS

In the technical high schools sewing is given during the entire four years. All girls in the first two years are required to take plain hand and machine sewing three and three quarters hours a week for the 38 weeks term. In the third and fourth years they may take either millinery or dressmaking. A special course in millinery and dressmaking may be elected by those girls who wish to prepare for trade work. The aim of the sewing in the technical high schools is "to give such training as will enable girls, as they grow to womanhood, to appreciate the practical economic and artistic value of the various textile materials in their application to dress and to home-furnishing." As stated more specifically in the East Technical High School outline of the course it is "(1) preparation for efficiency in the selection of the materials used in sewing, and the construction of articles relating to the home and family sewing: (2) laying the foundation for courses in college, normal school, or business school."

In the academic high schools, this year for the first time, a two-year elective course in sewing three hours a week is offered as a part of the home economics course. The aim of this sewing, which is called domestic art, is stated thus: "Problem—my personal appearance is one of my chief assets. What can I do to improve it?" Sewing in dressmaking and millinery classes is also given in the night technical high schools with the aim of showing girls how to make their own clothes and hats.

AIMS

As far as can be ascertained there is slight relation among these different courses of sewing. The work done in one group of grades or schools is not based on what has been done in a lower group, except that there is an effort to not make the same articles. Brought in as a part of household arts, sewing has not defined for it the legitimate relation which, in view of the kind of world we are living in in 1916, it bears towards the rest of household work. Thus it loses special significance in the large and tends to become something to satisfy a particular personal want of the girl or the girl's family in the way of clothing. For example it fails to take into consideration that our sewing is being done in progressively increasing measure outside of the home, that home-sewing is being done largely by machine, and that labor-saving devices such as fasteners affixed to tapes are displacing hooks and eyes separately sewed on. Similar examples could easily be multiplied. Again the present sewing courses in the elementary grades largely fail to take into account the fact that our girls now need education as purchasers of garments far more than they need training in the producing of garments.

It is of serious importance that the school clearly define the aim of any work given, in order that its educational significance may be understood by pupils and parents and may act as a directing influence in the actual teaching. If the school is to teach sewing for the home, it should work out and define clearly how much and what kind of home sewing should be taught in the sort of world we are now living in.

It is not the purpose of this report to go into an extensive discussion of sewing as a part of household arts. This belongs in another report of this series.* Nor is it the task of the report to discuss sewing as general and cultural education, or sewing as recreation, although either one of these has a legitimate place in public school work. The concern of this report is with sewing as preparation for wage-earning in the factory sewing trades. But the relation of the present sewing courses in the schools to wage-earning sewing must be considered.

Courses Do not Prepare for Trade Work

The manual training sewing in the fifth and sixth grades cannot be considered as furnishing any large contribution to the training of those who are to go into factory sewing. It is meagre in amount—consisting of the making of a workbag, and a small outing flannel petticoat in the fifth grade and a cooking outfit in the sixth—and not skilfully taught, being under the direction of regular grade teachers most of whom have had no special training and many of whom have no aptitude for sewing.

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*Household Arts and School Lunches. Boughton.

Nor can it be expected that fifth and sixth grade sewing should offer preparation for wage-earning. If it does anything of this sort it is only by happy circumstance, the correct learning of a few fundamental operations being a by-product of the main contribution of sewing to the general and cultural education and recreation of the girls. A fuller discussion of this manual training sewing is given in another volume of this series, "Dressmaking and Millinery."

The sewing given in the technical high schools cannot be considered as offering much contribution to training for factory sewing. In the first place, the sewing given is not especially adapted to factory needs. It is taught not from the point of view of doing quick, accurate hand or machine stitching but from the point of view of making a few garments with much care for the various personal needs that arise during the high school girl's life. If the technical high school is to do anything for factory sewers, new courses must be developed with definite trade aims. In the second place, at present, most garment workers do not stay in school long enough to take advantage of high school courses.

A study made concerning girls under 21 at work at the present time in Cleveland showed that of 772 who were in manufacturing industries, 269 or 35 per cent were employed in men's and women's garment factories. These constituted 14 per cent of the total number who had not gone beyond the elementary grades.

In decided contrast to this was the study of high school girls under 21 at work. Only 28 were in manufacturing industries, and of these only five were in men's and women's clothing shops. Four of these girls had had one year and one had had two years of high school work.

The girls from the elementary schools had not all finished their schooling. The number leaving school at the different grades is shown in the following table.

TABLE 12.—GRADES COMPLETED BY 269 GIRLS AT WORK IN GARMENT SHOPS, CLEVELAND, OHIO, 1915

Grade	Number finishing	Per cent finishing
8	77	29
7	102	38
6	63	23
5	17	6
4	5	22
3	5	2
Total	269	100

One-third of these girls left school at or below the sixth grade. This study of the education which younger workers now have shows that any sort of training for prospective workers must be given during the elementary school period.

The special sewing courses given in a few seventh and eighth grades in the training centers of the elementary schools ought to offer some preparation for factory sewing, since they are in the grades from which factory sewers most largely come; they are taught by specially trained teachers; and they offer both hand and machine work. Moreover, they are in schools from which large numbers of girls go into garment factories.

The special sewing as carried on at present, however, is not satisfactory as preparation for factory work. Of the five schools where special sewing is being taught in the regular seventh and eighth grades, only one has anything approaching adequate equipment. This is Mound, where there are four machines for a maximum of 20 and a minimum of 13 girls in a class.

In Warren, where there is only one machine for 17 or 18 girls in a class, and one and a half hours of sewing a week, each girl can get at the most an average of five minutes machine practice a week or three hours of machine practice during the whole year out of 54 hours of sewing. This is on the basis that every minute of the period is used by a girl at the machine with no time taken out for getting at work, changing place at machines, and putting away work.

In Fowler School where there are two machines, one furnished by the School Board, and one by the Mothers' Club, if each machine is used every minute of the time allotted for sewing, each girl averages from eight minutes machine practice a week in the largest class to 15 minutes in the smallest. This amounts to less than five hours in the largest and to nine hours in the smallest class during the whole year. Counting out time for getting out work, changing places at the machine, and putting away work reduces these averages by at least one-third.

One machine for 19 girls making a machine-made apron is like one hammer for 19 boys making a bench. The results of trying to teach a course in sewing where there is considerable machine work with meager machine equipment can be appreciated fully by visiting a class where the teacher is laboring under such difficulty. In two such classes at the time of a visit by a member of the Survey Staff, two-thirds of the class were waiting nearly all the time to "get at a machine."

Waiting time is partly occupied by doing every bit of hand work that can possibly be performed, no matter whether it is in the right order of construction or not. Often, however, hand work gives out and it is a matter merely of waiting. The girl at the machine suffers, too. She cannot take time to get practice in threading the machine for herself. Her main purpose is to get the seams sewed on the garment and to leave so as to make room for another girl who wants to "sew the neck of her apron." Anxious looks directed at her make her sew hastily and nervously. A high standard of workmanship in such a situation is most difficult to maintain.

The teachers engaged in this work are well-trained and are doing their best under the circumstances. But they are so hampered by inadequate equipment and lack of time that their ability has not much chance to manifest itself. In short, as we look over the sewing as it is given today in the Cleveland schools, it does not seem to offer much help to those girls who are to earn their living in a sewing trade, and least of all to factory sewers.

SUMMARY

The teaching of sewing in the Cleveland public schools consists in the main of classes of one and a half hours a week in the fifth and sixth grades of elementary schools, classes for upper grade girls in five elementary training centers, courses for four years in the technical high schools, and elective courses for two years in the academic high schools.

The training is not intended to fit girls for entrance into the sewing trades and is not of large value as a preparation for such work. Few girls who enter high school subsequently go into the sewing trades. The work in the training centers is given by competent teachers but the equipment of machines is inadequate to give the pupils more than a very small amount of machine practice.

CHAPTER XI

EDUCATION FOR THE GARMENT INDUSTRY

From the viewpoint of vocational education, the most important characteristic of garment manufacturing is that it is the industrial field which offers the widest opportunity for women wage-earners in Cleveland. Young women enter the work in great numbers at about the ages of 18 and 19 and as a general rule remain for only a few years. The available census data indicate that in this city one girl in every five or six enters some branch of the sewing trades and among these a large proportion go into garment manufacturing. Since a considerable proportion of the young women of the city do not enter any kind of wage-earning work, many more than one in five among those who do go to work begin in the sewing trades. Probably the proportion lies between one in three and one in four. These figures indicate that the sewing trades are of the first importance from an educational point of view.

Two Types of Preparation for Future Workers

In the opinion of the Survey Staff the needs of future garment workers can best be met in two ways: first, the modification of the courses offered in the junior high schools, and; second, the establishment of a one-year trade school for girls who wish to go into industrial work.

A Two-year Course in the Junior High Schools

A reorganization of the Cleveland school system is now under way through the establishment of junior high schools. Under the conventional plan of organization that has been in force in Cleveland up to the present time, the elementary course has consisted of eight years or grades, and the high school course of four years. It is now proposed to substitute for these two units of eight and four years, three units consisting of six years, three years and three years respectively. Under this new plan the elementary course would have six years or grades of work. This would be followed by a three year junior high school, and this in turn by a three year senior high school. In this way the present seventh, eighth, and ninth grades would be brought into the junior high schools, two of which are already in operation in Cleveland. This new form of organization has been provided with the object of meeting more adequately the educational needs of young people during those critical years when they make the transition from childhood to youth. It offers new and superior opportunities for helping the boys and girls who will leave school upon completing the compulsory attendance period.

Since Cleveland has adopted the junior high school, and the Board of Education has adopted the policy of extending this form of organization as rapidly as conditions permit, it is wise to consider in some detail how this affects the problem of training girls who will leave school as soon as the law allows.

In June, 1915, there were approximately 3,500 girls 13 years old enrolled in the regular schools of Cleveland and the available data indicate that very few pupils drop out before this age. According to law, girls cannot leave school and go to work until they reach the age of 16 and so we should naturally expect to find about as many girls in school at the age of 14, and about as many at the age of 15 as we do at the age of 13. The facts, however, are far from supporting this expectation, for in Cleveland the compulsory attendance laws have not been well enforced as far as the older girls are concerned and after the age of 13 many girls drop out contrary to the legal provisions.

Another natural expectation would be to find most of the 3,500 girls who are 13 years old enrolled in the seventh grade, for if they entered school at the age of six and made regular progress, they ought to be in the seventh grade seven years later. Again the facts do not support the expectation, for instead of finding practically all these girls in the seventh grade, we discover by examining the records that they are enrolled in every grade from the first elementary to the graduating class in the high school. Table 13 shows how the girls who were 13 years of age or older were distributed through the grades and high school classes of Cleveland at the close of the school year in 1915 and a study of the figures reveals some highly important facts as to the problems involved in the education of these young people.

TABLE 13.—GRADES AND AGES OF GIRLS ENROLLED IN THE REGULAR SCHOOLS OF CLEVELAND IN JUNE, 1915

Grade	13	14	15	16	17	18	19	20	Total
1	7	2	..	..	..	..	..	..	9
2	15	6	3	..	..	..	..	..	24
3	54	31	18	5	..	..	..	..	108
4	164	90	40	9	1	..	..	..	304
5	442	227	93	19	1	..	..	..	782
6	693	392	192	21	4	1	..	..	1,303
7	1,030	665	343	59	6	..	..	..	2,103
8	845	864	481	102	14	1	..	..	2,307
I	250	677	479	173	25	10	4	1	1,619
II	18	203	429	300	102	25	6	2	1,085
III	2	17	158	312	200	65	17	7	778
IV	1	..	23	161	310	195	63	19	771
Total	3,521	3,174	2,259	1,161	663	296	90	29	11,193

A careful study of the figures of the table leads to several important conclusions that are substantiated by the corresponding figures for earlier years. The first is that many girls leave before they are legally entitled to do so. At least a third of them and probably more than half drop out of school before the end of the compulsory attendance period. The second important fact is that among each 100 girls, 10 permanently drop out from the grades below the junior high school, 60 drop out of the junior high school grades, and the remaining 30 continue to the grades of the senior high school. A third significant conclusion is that if the compulsory attendance laws were well enforced, conditions would probably change so that seven out of every 10 girls would remain long enough to enter or finish the junior high school course.

While conditions would then be much better than they are at present, it would still be true that the great task of the junior high school would be the education of pupils for entrance into money-earning occupations. The junior high school is destined to be only in slight measure a preparatory school for the senior high school. Its educational task will inevitably be largely that of a finishing school for young workers.

Courses for Pupils Who Will Soon Go to Work

The facts that have been reviewed clearly indicate some phases of the problems which must be met by the school system and by the junior high schools. The first requisite is to reduce retardation all through the grades so that there will be fewer pupils reaching the end of the compulsory period while they are still in the lower grades. The age of 15 is the final compulsory attendance age for girls, and those who enter at six or seven and make regular progress should be in the first or second high school year when they are 15 years old. Nevertheless there were 1,170 15-year-old girls in the Cleveland schools last year who were from one to seven grades below normal. Instead of being in the high school, they were scattered from the second grade to the eighth and they constituted more than half of all the girls of that age in the school system. It is clear that unless the schools can carry them through more nearly on schedule time they cannot hope to have them well prepared for taking up work in the world of business and industry when the time comes for them to get their working papers.

There is another problem which confronts the junior high schools rather than the school system as a whole. The figures of Table 12 show that it is in the junior high schools that a majority of the pupils will finish their schooling. The greatest task of these new educational institutions is to provide the subjects and develop the teaching methods that will most effectively serve the needs of young people in the final years of their school life. They must also meet the needs of those who are going on to the senior high school and to college but this they are equipped to do far more effectively than they are to give the most useful training to the great majority who will not go on.

In another volume of this Survey series there will be found discussion of the work that might profitably be given in the junior high schools to boys who will enter industrial work, and particular attention has been paid to the needs of future workers in the printing, building, and metal trades. The keynote of the discussion has uniformly been the recommendation that the work be made as real, as practical, as concrete, and as interesting as it is possible to make it. Attention has been directed to the importance of making sure that every bit of work offered these young people in the closing years of their school careers should not only be of demonstrable value, but that it should be more valuable than any alternative topic or study if it is to retain its place in the curriculum. Repeatedly the recommendation has been made in the different reports that the work done in the classrooms should be checked up as to method and as to content by the requirements of gainful vocations in the world of adult work.

These recommendations apply with equal force to the education of the girls. Not so large a proportion of the girls as of the boys will go into industrial work and it is not equally true of the industrial work of women as it is of that of men that the solid basis of intelligent workmanship consists of a knowledge of mechanical drawing and mathematics.

Nevertheless it is the conviction of the Survey Staff that the girls who do not intend to continue their schooling should be given an opportunity to take courses in mechanical drawing, in industrial conditions, and in elementary science. Moreover, they would greatly profit by a course designed to give them some acquaintance with machinery. Every woman who goes into industrial work, and most of those who do not, would be a more valuable worker and a more intelligent member of society if she had some knowledge of mechanical principles, was able to make minor adjustments to machines, and could make intelligent use of the screw driver, the wrench, and the oil-can.

In the study of arithmetic there is a smaller body of technical applications needed by the woman industrial worker than by the man. Nevertheless the girl needs to master the practical applications of arithmetic just as the boy does. She should not have to study problems of mental arithmetic such as those given in the texts now in use in the upper grades in Cleveland which ask the pupil what the time is "if four-fifths of the time past noon equals four-elevenths of the time to midnight," or "how many plums should be given for five peaches if 15 peaches are worth 60 apples, and seven apples are worth 35 plums."

Because of such considerations as those that have been reviewed, the Survey recommends that courses be made available to girls in the junior high schools in subjects directly designed to give basic preparation for industrial work. It recommends courses in mechanical drawing, elementary science, industrial conditions, and elementary mechanics. It recommends that the work in mathematics, as in history, geography, and language, be carefully scrutinized and challenged to see that it bears a real and direct relationship to the demands of after life.

In addition to all the foregoing, it is recommended that thorough courses in sewing be provided for girls. By this is meant a different sort of sewing from that now given in the elementary schools, or the domestic arts sewing of the present high schools. Most of the girls from the junior high schools who enter industrial life will go into the sewing trades. They constitute a considerable proportion of all the girls. They would greatly profit from a course directed toward developing skill and forming correct habits in the simple fundamentals of hand and machine sewing. The work should be intensive rather than extensive. It should insist on high standards of workmanship rather than aim at the production of a number of garments for personal wear.

The fundamental elements or common processes are the same in all of the sewing trades. They largely depend on skill acquired through carefully cultivated habit. Holding the needle properly, using a thimble effectively, gauging lengths of thread, tying knots, sewing on fastenings and ornaments neatly and strongly, making the different stitches properly and holding correctly materials cut on the different ways of the goods,—these constitute the fundamental equipment of any girl who is to do any sort of hand sewing. For machine sewing there are added the threading of the machine and the manipulation of materials under the needle.

Thorough grounding in these fundamentals could be accomplished in two years of general sewing with another year for specialization in a particular line. The first year of work should probably consist of hand sewing and the second year of machine sewing, after which the girl should be given a chance to specialize somewhat broadly in a trade school in the particular sewing trade in which she wishes to engage,—power operating, dressmaking, or possibly millinery.

This general course in sewing should be planned so that pupils would become skilful in the fundamental operations of different branches of sewing work. For example, the course in hand sewing should include the basic stitches used in dressmaking, in millinery, and in factory work. The teachers should be women who know the principles of the various sewing trades well enough to stress similar operations and point out different ones. Pupils taking this work should receive special instruction in regard to general industrial conditions and in respect to the comparative conditions in all the sewing trades, such as wages, seasons, hours of labor, etc. In addition to the teaching and training in sewing, the pupils should have a course of instruction in fabrics and textiles. They should learn to recognize the different materials, weaves, and finishes, and know something of their comparative advantages.

A One-year Trade School for Girls

Specialized trade training, such as training for power operation, must be of such nature as to prepare workers adequately for the kind of work they are to do and to inspire the confidence of employers to such an extent that they will want workers thus trained. This means that workers must be trained under conditions closely like those of the trade itself. They must have up-to-date equipment similar to that used in the factory itself; they must be furnished with a sufficient supply of materials; they must be trained by persons expert in the trade, and must turn out a saleable product. It might seem that on the score of adequate equipment the factory itself would be the best training place. This is not the case. The main object in the factory is to turn out as large a quantity as possible of saleable product and its proprietors try to avoid the non-productive use of its machinery for training purposes. The main object of a training place, on the contrary, is to turn out as large a quantity of saleable training as possible, with a saleable product as a secondary, although necessary, feature.

The junior high school is not the place for this trade training since it is reasonably certain that there would not be a sufficient number of girls specializing in any one trade in each junior high school to warrant the provision of special equipment and special teachers. The practical solution is a trade school for girls, offering training in the occupations employing the largest numbers of women workers in the city.

No better evidence can be given of the possibility of running a trade school for girls as a part of the public school system and of the value of such a school in training acceptable workers for various trades than that of the records of the Boston Trade School for Girls and the Manhattan Trade School for Girls in New York City. The following description of the work of the New York school will illustrate the nature and functions of such a trade school as is here recommended.

THE MANHATTAN TRADE SCHOOL FOR GIRLS

The Manhattan Trade School is a short-course public day school, the purpose of which is to train girls to be self-supporting as quickly as possible. It was established as a private undertaking in 1902 and so continued until 1910 when it was made a part of the public school system of New York City. The fact that the support of the school was assumed by the city demonstrated that the school had made good.

Instruction is offered in occupations in which there is the greatest demand in the city for women workers. Thus training is given in the following trades: dressmaking, millinery, clothing machine operating, straw machine operating, embroidery machine operating, sample mounting, novelty work, and lamp shade making. In connection with the training for these trades girls are given designing and perforating for embroidery, drawing and costume designing, cooking, physical training, business arithmetic and accounts, business English, textiles, and industrial conditions and trade ethics. About five hours each day, or 25 hours per week, are devoted to trade practice, and the remaining time to related subjects.

Girls who have graduated from elementary schools or those 14 years of age and able to pass the work of the sixth grade in the elementary schools are admitted to the school. The course can be completed by the average girl in one year. Girls are admitted on Monday of each week and may choose the trade they wish to learn. The instruction is individual and girls are promoted as rapidly as their work will permit. A diploma is given to girls who complete the course and give evidence of three months' satisfactory experience in trade outside. The placement secretary of the trade school endeavors to place all graduates in good positions. The school is in session throughout the year except during August, with 35 hours work a week.

Materials for the training are furnished by the school free of all expense to the pupils, and the finished product is disposed of by the school and the proceeds expended to purchase more materials. A salesroom is maintained at the school and orders are taken for various articles. It is interesting to note in the 1913–14 report of the city superintendent of schools in regard to this school that "the income from the sale of finished product returned to the auditor has covered not only the expense of materials used in trade classes but also all supplies for the art, physical training, and non-vocational classes, the cost of running the offices and salesroom, the cost of repairs to machinery, the expense of all new equipment, such as machines, tables, chairs, etc., that are constantly needed to replace the old ones, and to keep the trade departments up to date. The standard of work and the businesslike methods of the school have improved to such an extent that it has not been necessary to ask for any appropriation for supplies for the coming year, whereas three years ago $10,000 had to be appropriated for this purpose."

That the school is training acceptable workers is shown by the fact that it cannot fill all the calls which come to it during the season of the trades it teaches; that many calls come for "more girls like Fannie," or some other graduate who is filling a position successfully; that many employers pay at once the wage recommended by the school; and that wages are relatively better to beginners from the trade school than to beginners without trade training. According to the 1915 bulletin of the school, "Almost every girl who takes the year's course is placed at a wage as high as $5 and girls who can be highly recommended begin at $6 and $7. The records of the girls show that they advance readily to $10, $12, and $15 after a few years at the trade, and the records of piece workers show earnings as high as $40 a week in the busy season."

Attention is especially called in this report to the course in Clothing Machine Operating given in the Manhattan Trade School. The aim of this course is to make an all-round operator who is thoroughly trained in the intelligent use of the power sewing machine. There are five sections in the operating department. About two months are spent in elementary operating, learning general control of the machine, making operator's equipment and doing practice stitching on simple garments. Two months are spent on intermediate operating, on children's dresses and simple undergarments, and learning the use of various attachments. Three months are spent on advanced operating, making shirt waists, negligees, petticoats, and women's underwear, with special emphasis on speed practice. Three months are spent on filling special orders on women's and children's dresses and other garments made in a large variety of materials. Two months are spent in special machine practice on hemstitching, scalloping, and embroidery machines. Pupils specializing in embroidery machine operating take the first three sections of the clothing machine operation before beginning their special work; and specializing in straw machine operating take the first two sections.

There is every reason to believe that a properly conducted trade school for girls would be a success in Cleveland. It might be even more effective than the New York school, since its girls, by reason of the age and schooling laws would be entering older and therefore would be better fitted to assimilate the training given them.

It is of the utmost importance, if such a school is to attain the best results that the right kind of teachers should be obtained from the start. The principal of the Manhattan Trade School says in regard to this: "The tendency seems to be to consider the trade school teaching more nearly akin to the elementary than to the high schools, and this I believe to be a mistake. Nearly 60 per cent of those who enter the trade school are graduates of elementary schools, and a much larger percentage of those who remain to complete the course are graduates. These girls are, in almost all cases, earnest and ambitious girls who must be prepared to enter industry as quickly as possible because of the necessity of earning a livelihood. It is most important that their preparation should be of the highest attainable standard. The technical skill required of trade school teachers is even greater than that required of teachers of similar subjects in either elementary or high schools where girls are merely taught to make their own clothing, as the trade school teachers are continually measured by the success or failure of their girls at trade."

TRADE EXTENSION TRAINING

The only instruction offered by the public school system at the present time which might be classed as trade-extension training for workers in the garment industries is that given in the sewing classes in the technical night schools. The enrollment in these classes during the second term of 1915–16 was 229. The technical night classes are held in the technical high school buildings, and are taught by teachers of the day technical schools. The night school year consists of two terms of 10 weeks each. The pupils attend two nights a week, or a total of 40 hours per term. A fee of $5 a term is collected from each student, of which $3.50 is refunded if the student maintains an average attendance of 75 per cent.

Only a small proportion of the girls and women enrolled in the night sewing classes make their living by sewing. During the second term of the present school year the students employed by day in clothing factories or in any of the sewing trades constituted less than 15 per cent of the number enrolled in the sewing classes. Nearly half of the total number are commercial, clerical, or professional workers, and approximately one-third are not employed in any wage-earning occupations. The distribution among the various types of occupations in which the students were engaged is shown in Table 14.

TABLE 14.—OCCUPATIONAL DISTRIBUTION OF STUDENTS ENROLLED IN SEWING CLASSES OF TECHNICAL NIGHT SCHOOLS

Occupations	Number
Commercial and clerical workers	94
At home	73
Miscellaneous factory workers	18
Sewing trades (not in factory)	16
Clothing factory workers	16
Professional workers	8
Domestic service	4
Total	229

In both schools the emphasis is laid on training for home sewing rather than on training for wage-earning in the sewing trades. In the West Technical Night School three graded courses,—elementary, intermediate, and advanced sewing,—are given. According to the report of the principal, the elementary course, designed for giving instruction in the fundamentals of sewing for beginners, comprises the teaching of the various stitches, seams, hems, plackets, putting on bands, facing, sewing on buttons, buttonholes, hooks and eyes, sewing on lace, putting on ruffles, collars, cuffs, and the use and alteration of patterns. Each pupil is required to make four undergarments, a lingerie waist, and a simple dress. Discussions of such matters as styles and the selection of materials for undergarments and trimmings form part of the course. For admittance to the intermediate course, one term of night school training in elementary sewing, or its equivalent, is required. During this course kimonos, silk waists, woolen skirts, lingerie, and woolen dresses are made. Pupils are also taught the elements of fitting and altering. In the advanced course the instruction includes tailored buttonholes, seams, alteration of patterns, cutting and basting, fitting, pressing, and finishing. Each student may make a wool or silk dress, a suit, a separate long coat, or an evening coat or cape. The report received from the East Technical Night School describes briefly the purpose and method of instruction as follows: "To teach girls to make their own clothes, through talks by the teachers and practical work in making garments."

The students furnish all materials except thread and scissors and the garments when completed belong to them. Few attend more than one or two terms. Of those attending during the second term this year less than seven per cent had attended more than two terms.

The courses now given are not planned for workers in the garment trades, but to help women and girls who want to learn how to make, alter, and repair their own garments. It is doubtful whether the time and equipment available in the night schools as they are organized at present are sufficient to warrant undertaking specialized trade training.

If a trade school of the kind described in the previous section were established, it would be possible to give short unit courses in machine or hand work at night to those workers who wish to broaden their experience and prepare themselves for advancement, utilizing in the night classes the equipment of the day school. It is probable also that special day classes could be organized during the dull season to give beginners the opportunity to learn new processes and extend their knowledge of trade theory during the unproductive months of the year.

Summary

The sewing trades offer the largest industrial opportunity for girls in Cleveland. Large numbers enter these trades at about the age of 18. A careful study of the census figures indicates that about one girl in every five or six in this city enters some branch of the sewing trades. For this reason these trades are especially important from the point of view of industrial education.

It is recommended that the public schools give special attention to the needs of those girls who will soon leave school and go to work. Three steps are of particular importance. The first is to enforce the compulsory attendance laws. At present more than one-third and probably one-half of the girls drop out of school without completing the compulsory attendance period. The second important step is to reduce retardation so that a larger proportion of the girls may reach the upper grades before finishing the compulsory attendance period. At present more than half of the 15-year-old girls are from one to seven years below their normal grades. The third importtant step is to reorganize the work of the junior high schools so that it may more adequately meet the needs of the girls who will soon leave school and go to work. Among every 10 girls, seven finally leave school in the junior high school grades or below. The greatest educational task of the junior high school is to provide the final schooling for young people who are about to go to work.

In addition it is recommended that a one year trade school be established to prepare workers for entering the sewing trades. In this trade school special emphasis should be placed on power machine operating. The records of the Girls' Trade Schools in Boston and in New York indicate that such a trade school for girls in Cleveland would prove of great value if properly organized and administered.

The evening classes in sewing now conducted in the technical high schools do not provide trade extension training for garment workers. It is doubtful if they could profitably be reorganized so as to furnish such training. Probably the most satisfactory trade extension courses for the garment industry would consist of evening technical courses in drawing and design to be established in the technical high schools and evening trade sewing classes to be organized in connection with the proposed new trade school.

CLEVELAND EDUCATION SURVEY REPORTS

These reports can be secured from the Survey Committee of the Cleveland Foundation, Cleveland, Ohio. They will be sent postpaid for 25 cents per volume with the exception of "Measuring the Work of the Public Schools" by Judd, "The Cleveland School Survey" by Ayres, and "Wage Earning and Education" by Lutz. These three volumes will be sent for 50 cents each. All of these reports may be secured at the same rates from the Division of Education of the Russell Sage Foundation, New York City.

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